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The business department of THE JOURNAL is on page 230.

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AN old teacher who says he has "taken twenty-five classes through Virgil," in renewing his subscription, endorses a warm commendation of THE SCHOOL JOURNAL, and sends this slip, at the bottom of which he writes is "All bosh."

"As long as the acquisition of knowledge is rendered habitually repugnant, so long will there be a prevailing tendency to discontinue it when free from the coercion of parents and masters. And when the acquisition of knowledge has been rendered habitually gratifying, then will there be as prevailing a tendency to continue without superintendence, that same self-culture previously carried on under superintendence."

There are a good many yet who would like to have the boys take knowledge as they do castor oil. Knowledge is such a good thing that they think there should be some suffering to get it ; "No cross, no crown," they would apply to education.

But a different spirit is taking hold of preacher and teacher. Make the church and school-room as interesting as possible, is the watch-word. There are many teachers who misunderstand what it is to make knowledge interesting. "Now my dear children," etc. Away with nonsense. Know your subject and you will rarely be uninteresting.

From time to time certain books are recommended for reading circles. "The Explorations of Columbus" is a good book, undoubtedly, but why put it into the reading circle? Why not put in Greeley's "What I Know about Farming?" The managers of reading circles should proceed in book selection as the faculty simply of a normal school. Above all let there be no putting in this book to please one publisher, and that, to please another.

The teacher cannot too frequently assure himself that if he teaches in the right spirit he is engaged in the noblest work a human being can set himself at ; he must desire to lead the child to seek the highest and best, and to be obedient to the highest and best. He may have taken up the work to raise fifty or one hundred dollars ; that does not vindicate his work, by any means. As work it should be paid for ; it is his duty to work and earn money. What is wholly wrong is for a person to undertake this kind of work, who has no desire for the highest and best himself. How can the blind lead the blind?

And this is precisely the reason the results of our schools are meager,—compared with what they might be. There is a school where earnestness, a sense of duty, a

love of industry, cheerful obedience, respect for the teacher, and for each other prevails ; there is another where laziness, hatefulness, disobedience, quarrelsome-ness, filthiness of thought and language abounds. Why this difference ? This is the problem the teacher must ponder on.

Some months ago the practice department of a normal school of considerable note was visited. At the request of the principal the teacher of the lowest class, little boys and girls of five, six, and seven years of age, set them to work on numbers. From the movements of the teacher, her evident summoning up of her mental powers, it was plain that something unusual was to be done. The class was exhibited : "Now every one be ready ; make no mistakes ; but see who will be first, etc." The teacher called out "7 and 5, and 2, and 4, less 3, add 6,—how many ?" Then followed some more touching up with the spur : "Pretty well, but we can do better." Then followed other similar problems ; each time the problem was made more difficult and more haste demanded.

At the first halt made, in order that the first class might, get breath, we left the room. In the hall the principal asked, "What do you think of that ?" It was a sincere question and it was answered sincerely: "It is very bad ; there is no excuse for employing children on work unsuited to their mental development." He replied : "I found it in operation and it is considered a strong point ; but I do not approve of it."

The wisdom of employing devices in the school-room to the extent now practiced is being seriously questioned by thoughtful teachers. Prof. J. E. Rodgers, of Texas, in a discussion on primary methods at the association in that state, said :

"Some teachers appeal to the devices in order to arrest attention of the child and concentrate it upon the subject in hand. We are told to follow nature. Will you tell me where did nature ever resort to device ? Nature does not introduce devices. If we are assistant teachers aiding nature, the room for devices is very small. When you take your boy or little girl to the photograph gallery and he is impatient the fond parent takes a little rattle to divert attention. Take the honey bees. They are the architects of their own fortunes and mansions. They operate from instinct. Never do they resort to a device. We have instinct, reason, judgment, and power of analysis. It does seem that the teacher should be so thoroughly equipped that he need never resort to device. Devices arrest attention for a while but distract attention. You must use a device as if it were a part of the work germane to the subject. Look at a planet through a telescope. Do you see the glass through which you look. So with devices ; you must look through without seeing it at all.

"One of the results of devices is, our boys do not understand their own language. This is one of the most dolorful results that could exist."

There lately visited this office a man who has devoted himself for fifty years to usefulness in modest school-rooms. The years have come when he is no longer suitable for the school-room ; people foolishly persist in choosing young teachers and preachers. What shall he do ? Where is there a home for Aged Teachers ? Is the almshouse the only place open to a life-long laborer in the school-room ? Come, all hands, let this be no longer a stigma on the profession. Let the New York State Association make this one of the objects for which it bestirs itself into new life.

John G. Whittier is a name that has been and will be familiar in the school-rooms of America. During the past ten years most teachers have undertaken to familiarize the pupils with some of the great names in literature—especially American literature. Like Lowell, Longfellow, and Emerson, and Bryant, Whittier has passed away within the recent period which has witnessed an earnest effort to cause the young people to know something of pure and elevated writing. Few schools but have a "Whittier Day" once each year; at this time not only are selections from his verse read, but facts pertaining to his life are given, so that the announcement of his death will cause a feeling in the school-rooms something akin to that arising when a noted townsman has died. Whittier was indeed a citizen of the entire continent.

He was in his eighty-fifth year; his father was a hard-working farmer, too poor to give his son but little opportunity for education beside that afforded by the district school, or to purchase him books. The boy toiled from early to late on the stony farm; he had no associates, nor libraries that might open to him the stores of literature the past had heaped up. At the age of 19 he had read the poetry of Burns and felt he must express himself after that style.

That Whittier was born in New England of Quaker parents would explain why his sympathies were cast with the negro then in slavery, and why many of his poems up to 1865 were expressive of his detestation of human bondage. He exhibited, however, in "Maud Muller," even in this period, a poetic charm without any didactic purpose that confirmed his admirers in their belief in his possession of those unusual powers that constitute a really meritorious writer. "Snow Bound" and the "Tent on the Beach" showed that he wrote simply to utter thoughts in a beautiful form.

Whittier was a poet of common things; he felt the breath of the common life; he was one of the common people all his years. He wrote not only to reflect that life but to elevate it; indeed the didactic element was often too conspicuous. His surroundings in New England or in America furnished him with abundant themes; he did not go back to the mythological years. It was the present, the very times in which he lived, that furnished him with the subjects for his pen; it was of the humanity right about him that he wrote.

A letter from a Pennsylvania correspondent who attends a good many institutes criticises them quite severely and yet in the main quite justly.

His first point is that the conductors have no well settled scheme of educational doctrine. This must strike any one who listens to the talk of the ordinary conductor; he says a great many valuable things, but there are no underlying principles to hold them together. He excuses himself on the ground that the teachers could not understand them. Is it not a fact that the many good points he makes are forgotten because there is no connection made between them?

Finally, he says the teacher is not elevated in spirit and thought by the meeting. He suggests more singing and more effort to inspire the teacher to go out as a missionary for humanity. The whole letter breathes an excellent spirit; we felt, as we read it—such laborers as you want are few.

Grammar School Arithmetic.

By ELLA M. POWERS, Milford, N. H.

Why is it that our schools in America show inferior results in mathematics when compared with the Prussian schools? Is this true throughout all grades? A comparison will show the truth of the assertion in the grammar grade, but the lowest grade compares more favorably. The question naturally arises: "Why are our grammar school students found deficient in arithmetic?" Many of the leading educational critics have many times said: "Too little attention is devoted to the practical parts of arithmetic as they apply to the actual work of life." We grant this truth, for is not much time spent in square root, cube root, alligation, arithmetical and geometrical progression? How many business men in one hundred have occasion to apply them? Possibly one. The majority of pupils in the school will never be accountants, yet days and weeks are spent in equation of payments, equation of accounts, compound proportion, compound partnership, and all the complex, unheard of applications of each section. We do emphasize that more satisfactory work can be accomplished by a more thorough drill in the more practical sections of the arithmetic; but the question follows: "What are the most practical parts?"

Business men cannot go through life with a slate and pencil around their necks and pencil and paper are not always easily attained, hence the assertion that mental arithmetic is of great practical value. Teachers have gracefully acknowledged this, and have proceeded to give mental problems of such a kind that no similar ones will be likely to occur in life. The mistake in much of the mental work is, that teachers have made the *process* paramount. These oral solutions are far different from the silent, practical, mental solutions that are daily required of every merchant and business man in our country. It is the mental, not the oral, examples which should be frequent, both for their practical value and for the excellent discipline of the mind.

Can a subject be clearly understood and still disliked? Pupils in our primary schools take delight in numbers. The majority of high school students enjoy mathematics. Why does the average grammar school scholar dislike arithmetic? Is it because the study is made less interesting, less practical, and is less understood? In nearly every town or city in our country the mathematics of the grammar schools compares unfavorably with work done in the primary or high school. It may be because the work in this grade is more artificial and here it is that more machine work must be done.

Again, in our grammar schools, weeks are spent solving examples by complex rules that could be most simply and clearly understood if performed by algebra, yet many say, "No; algebra should not be admitted in a grammar school." That belongs to the high school. So five or eight weeks are spent in learning a subject, which could be fully understood by algebraic computation in one week. If you could go from Boston to New York by rail in six hours would you say, "No, I prefer to go by stage coach as my grandfather did"? That is just what is being done in arithmetic in our grammar schools to-day. We have improved our primary methods and our high schools have profited by the valuable improvements, but it is our grammar schools that have walked nearest the old trodden paths.

In many of our grammar schools the teachers are hired because of their power of government more than because of their superior ability as teachers. Their success lies in their skilful discipline, and they are content that the old methods shall be pursued, and so less is done for the advancement of new methods.

What we need is more time given to the practical and philosophical parts of arithmetic, and every mathematician knows that much time is spent in solving examples that could be thoroughly comprehended in one half the time, if the student has comprehensive and yet simple knowledge of algebra or geometry.

Another fault in teaching arithmetic, into which many

conscientious teachers fall, is that of incorrectness, for, while searching for additional problems, one is chosen with incorrect data, another contains obsolete terms. It is the duty of the teacher to look farther than for a problem which illustrates certain rules. She should go to science and history for statistical information of practical value and always aim to present the current values, terms, forms, and usages of American business. Let the arithmetic lessons be prepared as if every boy were expected to leave school at the end of his grammar school course. The majority of boys in our manufacturing cities never go to the high school. Give them a drill in arithmetic that shall teach all to cultivate self-reliance and vigor of intellect.

Science Work in the Grades.

By FLORENCE ROACH, Prin. Polk School, Washington, D. C.

Scattering instead of concentration of energy results from undertaking to teach too many subjects at one time in a grade. We recognize the superior demand of education in the common branches over the special ones; there is, however, an economy to be practiced in school methods.

Natural science, outside of the school-room, is said to be the basis of the productive industries, the lever which lifts the masses by creating wealth; therefore, in the school-house it might, with profit, form the ground work as material for the language and reading lessons, object and composition exercises. It is thus that the common and special branches should be introduced in our lower and middle grades. A "knowledge of things" and their relations, should be utilized for composition, because "language is man's most wonderful instrument;" it analyzes and pictures the structure of the mind not only in representing the subjective, but again in reflecting the objective conditions.

The aim of the science work in the lower grades is merely to determine the trend of the child's mind, to the observation of the most important features, by lessons about plants, seeds, stems, and flowers. Again, in the fourth year classes reading lessons are developed by the study of mineralogy. In the middle grades we have more classified science work on the human body. In the seventh year classes a view of physics is given, broad enough to include the movement of "masses" and molecular motion with mathematical relations.

In our grammar schools or preparatory high school classes, the understanding of the pupil permits a more scientific investigation of meteorological subjects, such as, dew, fogs, mists, clouds, rains, winds—with a physics basis, the class having experimented in regard to condensation, evaporation, convection, under the heading "heat."

It is suggested in connection with these science object lessons that they form a standard of comparison as a means of gaining knowledge through text-books, the reference work following the object lesson. Hence, the advantage of the object lesson is beyond comparison, provided the teacher keeps in view this fact, that instructor and pupil only meet on the common ground of sympathy, within the region of "the child's knowledge."

School Recesses.

By A. C. SCAMMELL, Milford, Mass.

Is the old-fashioned school-recess a thing of the past? Have the fun-loving boys and girls ruled out the old-time noisy games, better far than the best school-room gymnastics, that ever have been, or ever will be, thought out? Older people, passing by the school-yard at recess, and seeing the girls lolling about in groups, on one side, and the boys at their orderly plays on the other, regrettably say, "Children don't have the good times now that we had." "Why can't girls and boys play together as they used to do?" This is just what the teachers want to know, good friends. It is not our fault that children don't have all the good times possible, provided they are good times. But noise would disturb. There is cer-

tain danger of contamination, when boys and girls mingle together," say our wise superiors. Now, "Seeing is believing," and what we teachers do not see, we do not believe. A teacher who has eyes in her head and in her heart, too, can from her open window know and control all that needs to be known and controlled. Cynical teachers, who believe in the total depravity of *their* pupils, (whether other teachers' pupils are so or not) see, hear, and receive, according to her faith. We believe that the very few such teachers do, unwittingly, contaminate their children, by their warning talks to them, which may easily be too suggestive, and thus they ever reach upon that which is the mother's province, alone. The teachers of a grammar school were requested by their new superintendent to patrol the yard, during each recess. "The result is," says the head teacher, "that it has taken the life out of the boys. They don't play; they just lie around. Your teachers, looking at them from separate windows, did not interfere with their freedom, but four spies following them about, did."

It is like taking a walk back to the dear old times to visit a school out of the village, and see the children come in from a game of "tag," or "I spy." We hear every word they say at recess. We should be deaf not to hear. In the fifteen minutes, they have stored away enough (oxygen) of fun and oxygen, to help them over many hard places further on. We teachers do not like the idea of suggesting or inventing quiet games for our pupils. In the first place, quiet games do not serve the purpose of recess; and if they did, the ten or fifteen years since we played any games that we suggest might have the musty savor of too long ago. Children, wiser in their day, in many respects than we are, can be trusted to choose their plays. Nature will guide healthy boys and girls in choosing their games, far more wisely than any teacher can. But the room to play! As much of out-doors as children need is theirs by right. It should be theirs by deed. "But the heterogeneous nature of our schools!" Well, there is but one heart in children, after all. The one warm impulsive heart, nearer the surface, less enwrapped in self, in one, than in another, but in all, responsive to the right. If the old-time recess has been relegated to the past, we ask for the children's sake that it may be restored.

Parents Must Help.

The great hindrance to the progress of education is the parent. This incident was noted in Florida. The teacher of a class in a colored school was a normal graduate; she was really quite accomplished and had succeeded in rousing a remarkable interest in the girls. They began to feel, somewhat at least, what it was to be a woman. One of these pupils especially struck the attention. After school was dismissed, Claudia, whose demeanor had attracted attention in the school-room, entered her parents' door-yard. She was greeted with a string of low epithets for not being there sooner; the coarse abuse was evidently a common affair. How all the ideals formed must fall shattered! To meet this impediment, it has been urged in these pages that the teacher should engage in the preparation and circulating of tracts that should draw the parent to become an active helper in the education of his children. Such tracts should be circulated by millions; one should be taken into every home. Here is a field for state and other associations.

The foundation of education is laid in the childhood home; it is begun when he first grasps the object which attracts his attention; when he learns to walk that he may get closer to things which excite his curiosity. It is a desire for knowledge which leads him to ask his innumerable questions, and he is entitled to the aid of his parents in his efforts.

The power of observation is the foundation of education. The greater part of the home training for the first five years should consist in encouraging the growth of the observing faculties. This is why the method of teaching adopted in the kindergarten is now seen to be so

valuable. Children are taught to see, to think, and to do at the same time, and the development is natural.

Ethics for the History Class.

By AUSTINE I. CAMP, St. Albans, Vt.

There exists so much to be taught by direct and positive methods that what may be taught indirectly, and can be instilled into the thought of the pupil, is largely incidental in the experience of the pupil and to the purpose of the instructor. Some definite notion of inculcating moral precepts is prevalent, and, of course, the mental bias, the tastes, and the personality of every teacher make some impression upon his class, and the pupils individually. These impressions are more or less lasting, and vital in their effect; but, since they emanate from the teacher without his volition and consciousness they can hardly be reckoned as part of his methods, though they may constitute an important item in his value as a teacher. Considering near and remote results, the two methods of teaching, the direct and indirect, balance each other. When the adult in retrospective analysis would name the "formative influences" of his career, he mentions not only what he was taught, but much that he was not taught, but should have been, and much that his teachers unintentionally happened to do for him. The future man and woman should occupy more of the teacher's thought, than the class-standing of the individual.

No branch of study offers a more fertile field for a broadcast sowing of seed which shall germinate into noble manhood and womanhood, worthy citizenship, and national greatness, than history. The past is ripe with object lessons, and the writers of history are called upon to present them, so that history shall not repeat itself to the disgrace of man and the fall of nations.

In this age, when an anarchist's decalogue declares: "No other fatherland than the social revolution and no other enemy than capital and the classes in possession," and "The first duty of an anarchist is social revolution," when there is so much rationalism in socialism, the youth of the land need to be enlightened in regard to the fundamental and abstract principles upon which rest national prosperity, the rights of mankind. The aspirations mold and influence the character of the man, even though no occasion for action presents itself. Robespierres and Marats, Dantons and Napoléons will still be pupils in our schools; let us trust there will be Lincolns and Washingtons also. When right ideas of "Liberty, equality, and fraternity," shall be ingrafted from earliest school days, may we not hope to be entitled to surer, safer citizenship, a more honest discharge of suffrage? We can well plan for these results in our teaching, though we never say aught about the principles we purpose to inculcate in the class-room. It is incumbent upon us to teach love of country, patriotism, and characteristics of effective leadership, the elements of true and worthy national prosperity, true citizenship, heroism, what constitutes manhood and womanhood, the ultimate futility of expediency unallied with justice, every term and every week of every term during the pupil's school career. These things will not be forgotten as readily as the order of the presidents, and the battles of the Revolution.

The girl, as well as the boy, needs to be imbued with all the large and noble ideas which have been enumerated as inspirations of worthy ideals in her brother, and to have the possibility of well-informed, large-minded, far-reaching womanhood infused into her very being. An abhorrence of pettiness, weakness, womanishness, and short-sightedness must be instilled into her comprehension of the womanly before womanly girls shall be graduated from our schools. And it is not easy to point out a well-rounded womanhood in history. There are countless heroines worthy of admiration, but they were actuated by one idea—the present moment. Witness Isabella of Castile, Charlotte Corday, and Joan of Arc. The vanity of a Queen Elizabeth, the frivolity of a Mary Queen of Scots, the cruelty of a Catherine de Medici, all prove that famous women are not in themselves great and transcendently womanly. If history does not chronicle the life-story of a truly great woman, it grows more possible every decade that this can and shall be done. Already the hero's mother is honored for having been the mother of the hero, as well as the mother of the man. An historical womanhood of a scope analogous to the manhood of Alfred the Great or Washington, is a glorious possibility of the future, but its realization will be deferred or hastened as the nobility of womanhood becomes general in the present.

A few months before his death, that great teacher Dr. Arnold, gave at Oxford a course of lectures which suggests admirable methods, and a comprehensive and practical scope, for teaching modern history. It will be impossible for the world to outgrow these notions of a man with a heart, who loved knowledge and loved to make the youth of his day love it. An American edition with valuable notes was prepared by Prof. Henry Reed. This book holds a value for the teacher of history who would know, and endeavor to help others to know, that which makes history immeasurably more than a record of facts and happenings.

The School Room.

SEPT. 17.—NUMBERS AND PEOPLE.
SEPT. 24.—DOING AND ETHICS.
OCT. 1.—PRIMARY.
OCT. 8.—LANGUAGE AND THINGS.

Broken Measures.

Life is full of broken measures,
Objects unattained:
Sorrows intertwined with pleasures,
Losses of our costliest treasures,
Ere the heights be gained.

Every soul has aspiration
Still unsatisfied;
Memories that wake vibration
Of the heart in quick pulsation,
At the gifts denied.

Broken measures, fine completeness
In the perfect whole:
Life is but a day in fleetness,
Richer in all strength and sweetness,
Grows the striving soul.

—Sarah K. Bolton, in June *New England Magazine*.

Notes on the History of Arithmetic.

ITS SYMBOLS OF OPERATION.

The genius of arithmetic requires brevity of expression. This remark is as true of its symbols of operation as it is of its symbols of number. Mathematicians early understood this. The later Greeks and the Hindoos indicated addition by mere juxtaposition, and traces of this custom are still left in our arithmetic where 22 stands for 2 tens + 2 units, and $3\frac{1}{2}$ for $3 + \frac{1}{2}$. In the Indian arithmetic of Bhaskara, a dot indicates subtraction and the other operations are symbolized by abbreviations. The early Italians used the initial *p* for plus and *m* for minus.

The modern signs for addition and subtraction occur, for the first time, three years before the discovery of America. They are found in the *Mercantile Arithmetic* of Johann Widman. They are, however, not used by him as symbols of operation, but apparently merely as marks of excess or deficiency. He uses them without explanation and seems to take for granted that his readers would be familiar with them. The next oldest book extant in which the signs for plus and minus are found is that of Christopher Rudolf (1524), the instructor of the better known Michael Stifel. Stifel long received the credit of having invented these symbols. But as Stifel admits that he took a large part of his work from Rudolf, and as the latter uses these symbols in his own book, it may be asserted with a good degree of confidence that Stifel took these signs also from his teacher.

Stifel's principal mathematical work was the *Arithmetica Integra*, published at Nuremberg in 1544, containing a preface by the reformer Melanchthon. This work is chiefly noteworthy for two things: It called general attention to the German practice of using the signs plus (+) and minus (-); and in the second place, his book was the first in which there are traces of the use of these signs as symbols of operation, and not merely as abbreviations for surplus or deficiency.

Why these particular signs were adopted can only be a matter of conjecture. Dr. Ritchie suggested that perhaps + was used because it consists of two marks joined together, just as two numbers are joined together in addition; and that — denotes subtraction because that is what is left after one of the marks is removed. Others have supposed that the + is a corruption of P (or p) the initial of plus; still others that it is the Latin conjunction *et*. It was the opinion of De Morgan that the — was first in use, and that it was formed by the elongation of the dot (.), the Hindoo sign for subtraction, and, in his opinion, the early printed form of the symbol suggests that from this sign the plus (+) was formed by superadding a small cross for distinction.

The most recent explanation of these signs is a conjecture that they were originally *warehouse marks*. In Widman's arithmetic they occur almost exclusively in practical mercantile questions. Goods were sold in chests which when full were expected to hold a certain established weight. Any excess or deficiency was indicated by + or —; and there are some slight reasons for thinking that these marks were chalked on the chests as they came into the warehouses. Usually the weight of the chest may be supposed to have been deficient. This would then be taken as the standard case, and the minus sign (—) as its symbol; from this the plus (+) was then formed by adding the vertical bar to distinguish the two symbols. A theory like the above is, by the nature of the case, very difficult to establish to a certainty, but it must be admitted to be the most plausible that has yet been ad-

vanced for the origin of our symbols for addition and subtraction.

The symbol of multiplication is St. Andrew's cross. It was first used by two Englishmen in 1631—William Oughtred and Thomas Harriot. The former employed it in his *Key of Mathematics*, a text-book on arithmetic. What led to the adoption of this particular form for the symbol is unknown. Two other signs for multiplication were once proposed: the dot (.) by Descartes and the curve (~) by Leibnitz. Both of these, although backed by great names, failed to obtain general currency.

Three ways of indicating division are in use: the dash, the colon, and the more common sign which is a combination of the two. The first was due to the Arabs, who wrote the quantities to be divided in the form of a fraction with a line drawn between them. Dr. John Pell, of Breda, the friend of Newton, invented the now current sign ($\frac{a}{b}$) and first used it in 1630. The colon or symbol of ratio seems to be a modification of the common sign of division, but who first omitted the dash, it now seems impossible to tell. It occurs in a work by Clairant, published in 1760.

The use of exponents to mark the power, has become general since the time of Descartes. His making extensive use of them has led to the mistaken notion that he was the inventor. They were, however, employed by De la Roche as early as 1520.

The radical sign ($\sqrt{}$) is a corruption of the initial letter of the word *radix*, root. The root of a number was formerly indicated by writing the letter *r* before it, and this letter was gradually changed to the form $\sqrt{}$. This sign was first employed by Stifel, who introduced also the signs for *plus* and *minus* as indicated above.

OTHER SYMBOLS.

The remaining symbols of arithmetic (exclusive of the symbols of number) are not symbols of operation. Nor is it easy to comprehend them under a single term. It has been found convenient, therefore, to treat them in this place in connection with the signs of operation.

Of the three so-called symbols of aggregation the *vinculum* was introduced by Vieta in 1591, and the brackets and parentheses were first used by Albert Girard in 1629.

The double colon (:) used to denote *proportion*, or the equality of two ratios, was introduced by Oughtred in 1631, and was brought into common use by Wallis in 1686. There seems to be little use in retaining a separate symbol to express the *equality* of two ratios, and confusion and misunderstanding would be avoided for beginners, if it were replaced by the sign (=).

The signs of *inequality* seem to be modifications of that of equality. The want of parallelism in the lines neatly symbolizes the want of equality in the quantities. They were introduced by Harriot in 1631.

The symbol for *equality* (=) was at one time used to denote subtraction. On the other hand, equality has at different times been symbolized by various other symbols. The current sign (=) was introduced by Robert Recorde in 1540. He says he selected that particular symbol, because *than two parallel straight lines no two things can be more equal*. It has, however, been pointed out in the *Archaeological Review*, for 1879, that the same symbol is not an uncommon abbreviation for the word *est*, in medieval manuscripts. This seems to point to a much more probable origin.

In summing up the above, it appears that the printers' art has put us in possession of tolerably full and reliable information, as to the origin and introduction of the six symbols of operation. All of them belong to the period of modern history and are a product of the revival of learning. One each, of the signs of operation, was furnished by France, England, and the Netherlands, and three by Germany alone. Of the other symbols named, all were introduced by Englishmen, with the exception of the vinculum which is due to Vieta, a Frenchman, and the brackets and marks of parenthesis, which were invented by the Dutch mathematician Girard.

—John H. Kleinheksel, in the Michigan Moderator.

Always "Don'ting."

A score of years or more ago, so says an alumnus of Amherst college, a fussy tutor was trying to secure silence in a too uproarious class-room. He scolded and pleaded to very little effect. Certain stage exercises or rehearsals gave opportunity for clapping and stamping, and the students were inclined to keep up the applause beyond reasonable limits.

In the midst of the tumult the door opened and Professor Seelye, afterwards president of the college, quietly ascended the platform.

"Young gentlemen! young gentlemen!" stormed and begged the poor tutor.

Professor Seelye spoke not a word. He stood an instant at his full, fine height, and—*lifted his hand*.

Not a word. Not a change of expression. But that confident, commanding gesture hushed them as if they had been in church under the benediction.

Fussiness cannot govern. Repose of manner always awes and fascinates the turbulent. Of course, it is not given to all to be grand-natured and majestic; but we may avoid fussiness. Teachers ought not to deserve the comment which one shrewd boy made on his teacher:

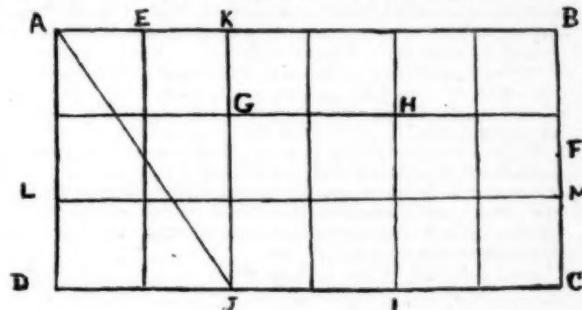
"She needn't be always don'ting!"

—Ex.

Suggestions in Arithmetic.

By CLARENCE S. GIFFIN, Newark, N. J.

By the putting forth of mental energy we increase our power to put forth more mental energy, and thus our ability for future mental growth. The mind grows by its own efforts, hence the more opportunity for original mental exercise we have the more opportunity for mental growth is given. The ability of young pupils to exercise their mental energies is not considered of sufficient importance in the eyes of many teachers, while teaching arithmetic, and the pupil is hindered in his mental development by receiving from the teacher too much data from which to work. A little thought and study on the part of the teacher, during the preparation of the work, will give the pupils an opportunity to find out many things for themselves which are often given as necessary data for an example. I have been surprised at the opportunity presented for original thought, on the part of the pupil, by only a few straight lines.



Let the teacher draw on the board a diagram similar to above. The data for all our work will consist of one fact only to be told the pupils, viz.: AB equals 15 miles. How long is AE? How long is AD? How many miles is it around the rectangle? How far will a man walk if he goes around four times? Willie starts from A on his bicycle and rides at the rate of 9 miles an hour, how long will it take him to ride around ABCD? How much farther from A to F by way of D and C than by way of B? Find area of GHJL. Find area of the entire rectangle. Find area of ADJ. If the rectangle were twice as long and twice as wide, how many ABCD's would equal it? What will be the dimensions of a rectangle twice as large as ABCD? If this were prairie land worth \$600 an acre, how much would AKJD be worth? What is the area of $\frac{1}{2}$ of ABML? $\frac{1}{3}$ of it? $\frac{1}{4}$ of it? etc.

These are but a few of the many examples that may be suggested by the diagram. The interest may be varied by placing a picture of Willie's home at one corner, the school-house at another, the grocery store at another point, the depot at another, etc. Then have pupils tell how far Willie goes to school; how long it takes him to go to the store at a certain rate, etc. The numbers may be varied to suit the grade, yet in all grades, addition, subtraction, multiplication, division, partition, area, distance, etc., may be taught, and all from simply giving the pupil but one fact from which to start.

One Way to Review History.

By FLORENCE E. STRYKER, Delanco, N. J.

One Friday afternoon, when the class in U. S. history had finished discussing a lesson on the Revolutionary war, the teacher paused as if in thought and said: "Children, the history of the world as well as the history of our own dear land, is crowded with the lives of great men who have fought and suffered and even died for their country's sake."

Now, occasionally, I shall tell you some true stories of these old heroes, and let us see how many can tell me the name, and perhaps the date, when I finish. If you do not know to-day, look it up and be able to tell next time.

Our lesson this afternoon reminds me of a king who lived in a wild, rough land, and had a life full of danger and trouble. His father before him fought to obtain the crown, but failed. This boy grew up among his country's enemies, living in their king's palace, where he was liked and pretty well treated. After his father died and he knew more of the troubles and miseries of his

own land, he longed to go away and help them. At last he escaped and tried to gain the crown himself.

Then indeed trouble came. His people were divided; many refused to obey him as king. He, in a fit of passion, killed the leader of the other side, and, although he bitterly repented, still for years he had to suffer the evil results of this crime. The country was invaded by the king of the great nation from whom he had fled, but, with a handful of soldiers, he could not drive them away. He lived in the caves of the mountains, hunted from place to place, sometimes coming down and cheering the hearts of the people by brave deeds and words. His dearest brother was killed, his wife made a prisoner, many faithful followers murdered, and still he persevered.

Year by year passed and he drove slowly but surely the enemy from city to city, until they were nearly all gone. Finally, the end came in one great battle. Before it began, our hero and his army knelt on the field and prayed to Heaven for help.

'They kneel!' 'They kneel!' cried the king of the enemy.

'To God, Sire, not to you,' said one of his generals. On that day he gained a great victory, and peace lasted until he died.

On his death-bed he prayed his best friend to carry his heart to the Holy Land where he had ever wished to go. This man obeyed him, but was killed in Palestine, and his body wearing the golden case in which were the ashes of his king's heart was brought safely back to his native land.

The memory of this brave king who had struggled and conquered is still sacred in his own country.

Now, who can tell me the king's name, his country, and the century in which he lived?" asked the teacher. Three or four boys—the readers of the class—waved their hands in the air; the rest of the class sat in silent thought.

"Robert the Bruce," cried one little fellow who could stand it no longer.

"Oh, yes," said one of the others; "but why didn't you tell about the spider?"

"Well, you shall tell that yourself next time," laughed the teacher. "Now, for the country."

"Scotland," was instantly answered. No one was able to give the century, and the teacher asked them to look up the date and all they could find about Robert Bruce in preparation for another little talk on the following Friday.

"It must oft fall out
That one whose labor perfects any work,
Shall rise from it with eye so worn, that he
Of all men least can measure the extent
Of all he has accomplished."

—Robert Browning.

Topical Questions.

The Mound Builders.

(See Gilman's "History of the American People," Chap. III.)

By JOSEPHINE SIMPSON, Jersey City, N. J.

- To whom is the name Mound Builders applied?
Where have these mounds been found principally?
Of what were they constructed?
For what purpose were they mainly used?
What remains have been found in them?
What can you state of their various sizes and shapes?
What can you say of the state of civilization of the builders?
Have the Indians been known to build such earth-works?
What might be argued from this fact?
Are these mounds found only in the West?
Are all these mounds of ancient origin?
How is the age of some of these mounds shown?
What can you find out about the "Great Serpent" mound?
Did the Indian tribes know much about these earth-works?
What is supposed to have become of this race of Mound Builders?
What is meant by "Pueblo" Indians?
How does their skill in building and in the arts compare with that of the early Mound Builders?
In what part of America did the first Spanish explorers find partly civilized tribes of Indians?
What can you state of their structures?
Give some reasons for believing the Mound Builders to be of a different race from the Indians?
Give some reasons for believing them to be of the same race?
Why is it so difficult to find out anything definite on the subject of the aborigines of America?
What do the more recent investigations seem to prove?
Ans. That the Mound-Builders were probably of the same race as the Indians.
Where is the most noted collection of relics from these mounds?
Ans. At the Peabody Museum of Archaeology, Cambridge, Mass.
Who is, perhaps, the most noted authority on the subject?
Ans. Professor Putnam, of Harvard University.

Miss Mayhew's "Way."

By A. L. R., New York City.

Miss Mayhew was the principal of the Greene street school in the town of M—. She was highly educated, had considerable experience, her credentials were excellent, and the board of education thought they had a prize. And they had, so far as Miss Mayhew's ability was concerned, but she had one drawback, she was "peculiar." Just what that word meant, the board found out before long.

Miss Mayhew was "bookish;" she did not care for society, and she failed to respond to the friendliness of the ladies of M—. It was a social town. The residents were mostly wealthy families, whose heads did business in the city near by. The school being a fine one a large number of the families patronized it. The teachers were received into the best society of the place and Miss Mayhew's predecessor had had a very enjoyable time, socially.

It was very soon evident that the new principal was not popular. She did good work, but there was a brusqueness about her manner that did not recommend her to parents or pupils. At first she received a good many invitations, but she did not accept them. She would say that she preferred a good book to a visit, and would shut herself in her room evening after evening. It was evident that she wished to be left alone, so the ladies of the town gradually ceased to invite her.

Mrs. Bronson, one of the social leaders of the town, had watched the new teacher and rather liked her. One Saturday day they came from the city together, and occupied the same seat. The subject of conversation interested Miss Mayhew, and she came out of her shell and talked well. Mrs. Bronson was interested; she thought the girl a rough diamond, but worth polishing.

A few days afterward she said to her husband, "I am going to make another effort to cultivate Miss Mayhew. The people would like her if they knew her. She is very bright and original. I shall give a little dinner and invite her. Let me see, I must have it this week, for the Christmas vacation begins next week."

So a dainty little note was dispatched by Gladys, Mrs. Bronson's daughter. Miss Mayhew read it, then turned to Gladys. "Tell your mother that I will come," she said.

"Where is my note from Miss Mayhew?" Mrs. Bronson asked Gladys that night, "She didn't send any, mamma. She just put yours in her pocket, and told me to say that she would come. She ought to have written a note. Don't you think so, mamma?"

Mrs. Bronson's little dinner was at seven, and Miss Mayhew presented herself about ten minutes after the hour. She explained that she was busied over some reports, and forgot her engagement. She had not gone to the trouble of dressing; she wore the gray serge that she had worn all day in the school-room. The other guests were in "silk attire," and it just occurred to Miss Mayhew that she might have worn her black silk. But she dismissed the subject as being too trifling to occupy her thoughts.

The company was cultured, and the conversation entertaining. Miss Mayhew enjoyed herself, but she forgot to tell her hostess so on leaving. She also neglected to make her "dinner call."

Miss Mayhew received no more invitations from Mrs. Bronson. She regretted the fact a little, for the people she had met there were very congenial. If she had overheard a conversation that took place between Mr. and Mrs. Bronson, a few weeks later, she would have ceased to wonder.

"You seem to have dropped Miss Mayhew. I thought you meant to take her up," said Mr. Bronson.

"Do you blame me?" She is a very bright woman, but entirely too careless about what she calls "trifles." I don't call them trifles. She answered a formal invitation to dinner by word of mouth through Gladys. She came late, in a school-dress, none too neat, at that, and neglected to make a dinner call. I hope I am not over punctilious, but it seems very careless! Gladys criticises her manner now and then. I don't encourage it, but I daresay the child is right."

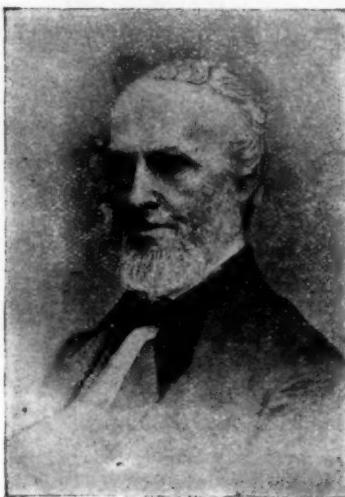
This lady was not the only one who took exception to Miss Mayhew's "way." A prominent member of the school board who visited the school reported that Miss Mayhew was barely civil to him. Now Miss Mayhew, in her heart, thoroughly respected and liked the member of the board, but she was pre-occupied, busied with the term examination, and she did not receive him very courteously. The result was that she made a bad impression on a friendly member of the board.

Some of the citizens remarked that Miss Mayhew never seemed to care whether she bowed to them or not. She always hurried along with her arms full of books and papers, and as she was somewhat nearsighted, it was true that she often failed to see people whom it would be politic for her to keep as friends.

The year rolled around, and the board met to decide upon the corps of teachers for the next year. The result was that the principal of the Greene street school was not retained. Everyone in M— appreciated her work, and acknowledged that she was an excellent teacher, but her unfortunate manner, and care-

lessness of trifles had so impressed the citizens that they did not wish their children to be under her influence.

Poor Miss Mayhew wondered at her removal, for she had been very faithful and conscientious about her work. Perhaps some one was kind enough to tell her that scholarship does not always atone for an ungracious manner.



John Greenleaf Whittier.

John Greenleaf Whittier, died at Hampton Falls, N. H., Sept. 7, at the advanced age of eighty-five years. His peaceful death was a fitting close for his peaceful life. The funeral was held the following Saturday at his late residence in Amesbury, and he was buried in the family plot in the Friends' cemetery. All business was suspended in Amesbury during the funeral.

Whittier was born in Haverhill, December 17, 1807. His ancestors came from England in 1628. They were not Quakers then, but embraced the faith soon after. Whittier's father was a plain farmer, and the poet worked on the farm until nearly twenty.

He was fond of books, and eagerly read all that came in his way, though the means for culture were few. He was afterward able by shoemaking and teaching, to earn the money to pay for two terms at the Haverhill academy. Here his education ended, so far as formal schooling goes.

When a mere boy Whittier was introduced to the songs of Burns by an old Scotch peddler who spent the night at the Whittier home. He sang some simple lyrics, and the Quaker boy was so charmed that he began to dream that he, too, could write poetry. His first verses were written while hiding behind a stone wall, or in the barn, and charcoal was used when pen and ink were unavailable. When about eighteen he summoned all his courage and went to the office of the Newbury *Press* with a poem in his hand. But he did not enter; he slipped his poem under the door and ran home. Wm. Lloyd Garrison was the editor of the *Press*, and he thought so well of the poem, and of several others which followed, that he rode over to the farm to make the young poet's acquaintance. Whittier came in from the field, and slipping on a coat and a pair of shoes, went into the parlor. This was the beginning of a life-long friendship between two men who were to gain an immortal name as workers in the cause of freedom.

We seldom think of Whittier as a prose writer, yet it was his prose, and not his poetry, that first attracted attention. When 22 he edited the *American Manufacturer*, a paper devoted to political economy. A year later he edited the *Haverhill Gazette*, and afterward became the editor of the *New England Review*. In *Legends of New England*, his first volume, was printed, being a compilation of poems and essays from the *Review*.

In 1835 Whittier was elected to the Massachusetts legislature, but politics was not to his taste, and he did not return to the legislature. A year later he moved to Philadelphia, where he served as secretary to the American Anti-Slavery Society, and also edited the *Pennsylvania Freeman*. His views were so radical, and so contrary to public sentiment, that his printing office was burned by a mob. He was as calm in those exciting times as he was later in his study at Amesbury. In 1840 he resigned his position as secretary and went to Amesbury, retiring to private life, though he never was idle. From that quiet home have come numerous volumes which have given him a place peculiarly his own in the hearts of American people. He drew his inspiration from his surroundings, and his heroes and heroines are purely American. Unlike Lowell, no one need study Whittier to understand him. The

man or woman of modest education can read his poetry without effort. Indeed, it might be said of him that "the common people heard him gladly." Few words has he ever written that we could wish otherwise; he was in his poetry, as he was in his life, brave and manly and helpful.

There are several reasons given why he never married. Intimate friends say that when he espoused the cause of freedom he foresaw the opprobrium and loss of caste standing that would be his. He counted the cost, and never wavered, sending out his anti-slavery poems, which had much to do in the shaping of public sentiment. But when all was over and Whittier and his fellow-laborers were recognized as they deserved to be, he was a middle-aged man. This is said to be the true story of the single life led in that quiet home.

Whittier was noted for his even good-nature. He carried under his Quaker garb a heart that was always young:

"I mourn no more my vanished years,
Beneath a tender rain,
An April rain of smiles and tears,
My heart is young again."—*My Psalm.*

His serene, unshaken trust in Providence is told in "The Eternal Goodness":

"I know not where His islands lift
Their fronded palms in air,
I only know I cannot drift
Beyond His love and care."

Only a few weeks ago he wrote an ode upon the occasion of Dr. Holmes' eighty-third birthday, in which he paid him this beautiful tribute:

The gift is thine the weary world to make
More cheerful for thy sake,
Soothing the ears its Miserere pains,
With the old Hellenic strains,

Lighting the sullen face of discontent
With smiles for blessings sent.
Enough of selfish wailing has been had,
Thank God! for notes more glad.

A little later, Dr. Holmes said, in his grief and loss, "Mr. Whittier had one of the sweetest natures—he was one of the sweetest singers we ever had, or ever shall have. His death was to be expected in the course of nature, but, nevertheless, it leaves me stunned."

Whittier has passed over with Lowell and Emerson and Longfellow and Bryant. Sadly we think that there is only one left us of the goodly company of the elder poets. Long may the genial "Autocrat" be spared us!

Across the water Tennyson is hale and vigorous at eighty-three. Lowell died a year ago at seventy-two, and Browning passed away a few months before at seventy-seven. No more striking instances of literary longevity are on record.

Whittier's Birthplace.

By JAMES BUCKHAM, Andover, Mass.

It is a charming walk or drive of about three miles from the thriving city of Haverhill, Mass., to the Whittier homestead, the birthplace and boyhood home of America's beloved poet, John G. Whittier. Taking the Merrimac and Amesbury road, one soon comes to beautiful Kenoza lake, of which Whittier sang:

"Kenoza! o'er no sweeter lake
Shall morning break or noon-cloud sail,—
No fairer face than thine shall take
The sunset's golden veil."

But, alas! the shores of Kenoza lake have now become the resort of picknickers and athletic clubs.

"The shores we trod as barefoot boys,
The nutted woods we wandered through,"
are dotted with boat-houses, refreshment booths, swings, bowling alleys and base-ball "diamonds." The timid hare has long since been frightened away, and where his devious "run-way" used to wind through the woodland, now stands the painted figure of an English stag. Where, long ago, the barefoot boys used to moor their raft of wattled logs, the sign, "Boats to let," stares the tourist-pilgrim in the face, and the quiet of those "banks of shade" is broken by the throng and whirr of a steam-engine which pumps up the water supply of the city of Haverhill. On one of the hills surrounding the lake stands a magnificent summer house, built on the style of an old Gothic castle, with round towers and serrated parapets. One cannot help wondering what the ancestors of our Quaker poet would have said, could they have seen this gray stone imitation of English baronial architecture, which was destined to spring up in the forests they had cleared in the name of liberty and God-fearing simplicity.

Leaving Lake Kenoza, one turns to the left on the broad Mer-

rimac road, and, after following this for about two miles, comes to a high, bare pasture-hill, at the foot of which, on a road crossing the main turnpike at right angles, nestles the old Whittier homestead, which has become familiar to American readers through many excellent illustrations in books and public prints. One's first impression of the house is disappointing;—it looks neither as old nor as romantic as one had fancied. There are no gables, nor even a dormer roof. It is a plain frame house, painted white, with a great square chimney rising from the center of the roof. The ridge-pole is painted a fantastic blue, and the big chimney is capped with an iron spark-arrester. But the modern impression—enhanced by these modern accessories—disappears when one comes to examine the house more closely. It is broad and low, in proportion to its length; its framework is heavy and substantial; the windows are narrow, with small panes, and are set apparently at random into the walls, without the least regard for regularity, as if the rooms had first been partitioned off, and then a window cut wherever there was need of admitting light and air. Over two hundred years ago this old Whittier homestead was built, and it was not until it had been standing for more than a century that it became the first earthly shelter of the sweet singer of New England life and scenery. Here, in December, 1807, was born the poet whose songs were destined to become the bugle notes of freedom, and the immortal memorials of primitive New England life and history.

But let us turn to the surroundings of the old Whittier house—surroundings which the poet has so delightfully portrayed in his "Snow-Bound" and other poems. Directly across the road from the house is the great barn, nearly one hundred feet long, to which, after the big snow storm, the boys of the Whittier household

"cut the solid whiteness through,
And, where the drift was deepest, made
A tunnel walled and overlaid
With dazzling crystal."

This barn, like the house, has been decidedly modernized since the boyhood days of the poet. It is freshly painted, has a great sliding door that runs on pulley-wheels, and is surmounted by a latticed cupola and a shining modern weather-vane. Still, the main structure is the same which the buskinéd and mittened boys reached

"with merry din,
And roused the prisoned brutes within."

Just at the right of the barn, as one faces it, is the corn-crib, now almost in ruins, which Whittier also incorporated into his winter-idyl:

"Strange domes and towers
Rose up where the sty or corn-crib stood."
Nothing, however, now remains of the old well-sweep, which

"In its slant splendor seemed to tell
Of Pisa's leaning miracle,"

except the upright forked post, black and cracked with age. In place of bucket and sweep, one sees now a smart modern pump, with a cup hanging at its side, for the refreshment of those who wish to say that, although they may not have drunk at the same Pierian fountain with the poet, they have at least quenched the thirst of the body at the same well.

But the brook which flows by the Whittier homestead, as it must have been the chief delight of the young poet, is now the chief point of interest to the appreciative visitor. All who have seen pictures of the Whittier homestead will remember the brook that crosses the road, a few yards from the house, and is spanned by a rude bridge of planks. How often must the boy-poet have leaned over the railing of this bridge, to watch the dark, wine-colored water rippling over the pebbles beneath. There is poetry in the very color of such a brook—an indescribable rich brown, lighting up into purple wine-color when touched by the sun.

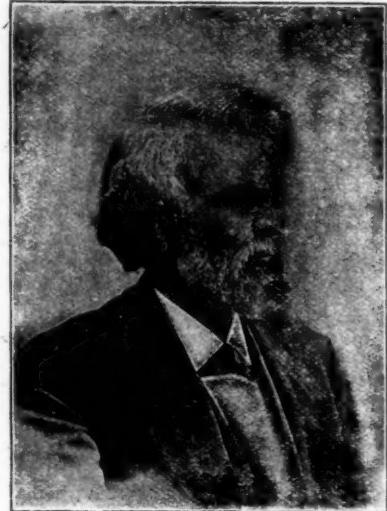
The little brook flows down a ravine, just east of the house. So near is it to the latter that its murmur can be heard by the inmates, at all hours of the day and night. The reader will remember that one of the effects of the great snow storm described in "Snow-Bound" was so completely to wall-in and bury this brook that its music was entirely silenced.

"We minded that the sharpest ear
The buried brooklet could not hear,
The music of whose liquid lip
Had been to us companionship,
And, in our lonely life, had grown
To have an almost human tone."

Along this brook—which, no doubt, has been followed many a time by the boy-poet and his brothers—we took our way, following up the little wooded hollow, in search of the things which must have interested and delighted the Whittier children. We found an abundance of violets, cinquefoil, or "five-finger," and cowslips.

Some of these flowers we gathered, to carry home and press in our volumes of Whittier, as mementos of the spot. Then we strolled through the orchard, on the hillside back of the house, and lay down on a sunny bank to read "The Barefoot Boy."

The Educational Field.



James Johonnot.

In the present article an attempt is made to give briefly the aim and meaning of Mr. Johonnot's professional career. To begin with, no thoughtful person acquainted with his work, will class him among the disciples of any man, however eminent. He interrogated the masters of thought, in the past, as in his own time, and he cordially acknowledged his indebtedness, not to one or two, only, but to a glorious host of thinkers and workers.

There was something in the constitution of his mind incompatible with the mental attitude of a disciple and in this most significant fact lies the secret of his special service to education. His whole life was marked by a joyous exemption from external restraints, an exemption so complete as to be unconscious. Tradition he knew and authority he knew; he recognized their value, but they were not for him in his profession and in this nineteenth century.

Freedom in the exercise of his reason was instinctive with him, was a "habit of mind;" and it was precisely this "habit of mind" he strove by every legitimate means to induce and cultivate in all who came under his instruction.

Fortunately, his professional work was sustained and protected by the state and was thus freed from the restrictions and obstructions of worn out tradition; and at the same time the largest liberty was secured him for the scientific presentation of his subject, whether through lectures or in the organization of schools.

To state his aim in other words, he sought to substitute the scientific method for the dogmatic in education. He hoped that in a not distant future all children might, on their entrance into school life, come under the gracious reign of common sense, and enjoy the cheerful freedom inseparable from instruction by scientific methods.

In every age of which we have a record, honest and thoughtful men have wrought strenuously to the same great end, in one field or another, and to them directly we owe such little measure of civilization as we possess. The true knight-errant is always with us and shall be so long as the race of the Philistine survives.

Mr. Johonnot again was most fortunate in the wide opportunities afforded him. He was frequently called upon to instruct teachers in New England and in the Middle and Western States. Forty years of his life were given to this work, chiefly however in the state of New York. A more adequate conception of the peculiar character of Mr. Johonnot's work may be obtained from an article published in the *Popular Science Monthly*, of February, 1889, and called "The Story of a School." This was his last work and was written shortly before his death. In this article, it is true, he confined himself to the briefest outline statements, but still it fairly illustrates his thorough application of the scientific method to all the departments of a normal school. The most characteristic feature of this school was the co-ordination of the various lines of work, so that each reinforced the other. It was Mr. Johonnot's belief that without this co-ordination the scientific method in its integrity is impossible. However numerous such institutions of learning may be in these latter days, in his time co-ordination of the departments in school or college was not even attempted.

A system of schools beginning with the kindergarten and ending in the university was completely organized in his mind, and it was his aim to see such a system established by co-ordinating the public schools of New York state with Cornell university. It is

enough to say of his plan that the principles underlying kindergarten work governed the whole system, and that moral and aesthetic culture had equal place with intellectual."

One other point. Whenever the welfare of the public schools was menaced in his own state Mr. Johnnot was the recognized leader in their defence and the attacking party found in him an ever ready antagonist, watchful, alert, keen, armed with weapons of weight and precision, and one, who when forced to make war, never did so on peace principles. Taking all these facts into consideration it may be doubted whether any other one man has had the opportunity and has done so much as Mr. Johnnot to advance the interests and improve the quality of the public schools in the state of New York.

About Women's Colleges.

More than three thousand students were enrolled the past year at Vassar, Smith, Wellesley, and Bryn Mawr. The Woman's college of Baltimore, the first in the South, last year conferred degrees on their first graduates. Harvard annex has rounded its twelfth year with flattering results, conferring the Harvard certificate, the equivalent to a Harvard college degree, on nine women. The quota of women at the great co-educational colleges is increasing constantly, while Yale, Johns Hopkins, Columbia, and the Universities of Pennsylvania and Chicago now offer her equal privileges. Twenty-five years ago Vassar college conferred degrees on its first graduates, and since then it has graduated 900 equipped women. Ten years after the opening of Vassar, Smith and Wellesley colleges were founded. The faculty of Wellesley college are all women. Smith college was founded by a woman and the faculty is divided. A Harvard examination or a certificate of honorable dismissal from a college is the passport to Bryn Mawr.

Bryn Mawr girls wear the gown and mortar cap. They were adopted at first to lessen the expense of graduation toilets. They add dignity and picturesqueness to college life. The graduates of the woman's college at Baltimore will don the gown and mortar board to receive their degrees. The adoption of the time-honored garb of foreign universities is a mooted question in all our woman colleges. Wellesley seniors wear it on Tree Day, but Vassar and Smith cling to the gown of the traditional "sweet girl graduate." The value of a degree to woman's ambition to teach or enter professional life increases yearly.

Here are some questions from the *Ohio Teacher* on the Theory and Practice of Teaching. Mr. E. E. Smock is to be the examiner:

1. Define each of the elementary powers of the soul.
2. What faculties of the mind are employed in reading "Lady of the Lake"?
3. What in reading White's Elements of Pedagogy?
4. Define concept, percept, corporal, and physical.
5. Discriminate between affection and desire, spirit and soul, and induction and deduction.
6. Compare "Harvey's English Grammar" with "Whitney's Essentials of the English Language."
7. Outline your method of teaching United States history.
8. What steps are necessary in the solution of every arithmetical problem?
9. What qualifications should every teacher possess?
10. Tell something you have learned at the county teachers' institute.
11. Write something showing that you have read the June number of either the *Ohio Educational* or *Ohio Teacher*.

No. 10 is a great question—one that shows the desire of the examiner to get at the "Elementary powers of the soul" of the teacher. Poor teacher!

The annual institute of Cook Co., Ill., has taken on important features since Col. Parker has had charge of the county normal school. It was in charge of County Superintendent Bright. There being nine grades in the city schools, nine classes were established, and a class for the country school where all grades are mingled. The attendance was very large, composed of those who are teachers in the city and country schools. The attempt is to present to each grade the best ideas relating to the subjects of school study.

The quarterly calendar of the University of Chicago is a volume of 44 pages. There are 99 instructors, including the president, William R. Harper. The university has four divisions: the university proper; the extension division; the libraries and museums, and the press. The fees are \$100 per year. Students may omit Greek if they choose, taking instead German or French.

The Brooklyn *Times* complains of the copies in writing books. "The present fashionable hair-line script is a hideous abomination that should be banished at the earliest moment. Children are forced to make their writing as faint and semi-visible as possible." The child should learn to write an easily made and easily read style. "Hair lines" are not used in business.

In an exchange, a visitor to the Stillwater and Faribault schools (that had been parochial schools and were transferred to the public school authorities) complains as follows: "In response to my knock the teacher opened the door clad in the garb of her order with a rosary at her side. In a position of honor in the front of the room was a portrait of Pope Pius IX., and all about the room and throughout the building were Catholic pictures and

imagery. The pupils are away behind children of the same age in other public schools." The assumption of the schools by the board of education should make them like the other public schools. Everything in a public school that is in any way objectionable to any religious sect should be removed.

The "Gillan case" in Wisconsin is likely to be celebrated. (Prof. Gillan, it will be remembered, was discharged by the normal school regents, April 18). He has sued the board for back salary \$641, and it is expected that he will show that underhand methods were employed. It is certain that Prof. Gillan has the sympathy of the best people in Wisconsin.

The fine piece of music "In the Tall Boughs," published in THE JOURNAL of Sept. 3, should have been credited to Oliver Ditson Company, publishers of the charming school song book "Stories in Song," prepared expressly for the school-room, and everywhere appreciated by teachers.

Mrs. Alice Freeman Palmer has accepted the leading position of advisory dean of the woman's department in the University of Chicago. She will continue to reside in Cambridge, Mass., but will be present at the opening of the university in October and then carry on her work by occasional visits. Mrs. Palmer is, herself, one of the results of co-education, and is eminently fitted by her successful experience at Wellesley, and by her intuitive knowledge of the best ways to manage and inspire masses of pupils, to be at the head of a great co-educational university.

The appointment of Prof. George Griffith as superintendent of schools in Utica, New York, to succeed Supt. McMillan must be looked on as an unusually good one. While school commissioner in Oneida county, Mr. Griffith drew attention by his evident departure from the cut-and-dried belief that the schools could not be improved. He was fortunate in being able to point out to the teachers what they ought to do; there are plenty of men who can deal in glittering generalities of "pouring the fresh instruction o'er the mind" and all that; but George Griffith was a practical man.

In the day when the New Education was quite new he saw it was what should replace the deadly routine that the state was paying heavily for, and supposing it was getting what it was paying for. He set up the watchword "Advance." Away back in 1880 he talked of "improved methods" to the teachers in his circular; also of employing a "determined effort to improve the school-room work" of the teachers. His address before the State Teachers' Association in '86 while superintendent of schools at Lockport shows that he has a firm belief that teachers should study foundation principles not only, but the child himself. His articles in THE SCHOOL JOURNAL have shown Supt. Griffith to be an educator, and so his appointment to this important place will encourage other men who are making a study of education to believe that the day of appointing semi-politicians as city superintendents is about over.

The relief steamer *Kite* has returned bringing the members of the Pearce and Peary relief expeditions. All hands are reported in perfect health. Both expeditions bring back a valuable harvest of facts and collections, and the whole expedition is regarded as successful in every field of effort. The route originally laid out by Lieut. Peary, was adhered to very closely and there was but little necessity for changing the first plan. So little trouble was experienced by this plan of Arctic travel that the results will probably change all former ideas of the method of such exploration and give increased confidence for future effort.

The Stars and Stripes have been planted at the two points nearest the north pole yet reached by civilized man. The Navy Department have received the following telegram from Lieut. Peary, at St. Johns, N. F.:

"United States Navy claims highest discoveries on Greenland east coast, Independence Bay, 62° north latitude, 34° west longitude, discovered July 4, 1892. Greenland ice cap ends south of Victoria inlet."

The highest point heretofore attained on the east coast is about 75° or 77°, and was made by Holdenby, a German. The highest point on the west coast was 83°, made by Lockwood and Brainard of the Greeley expedition. "No effects of the siege are observable on Mrs. Peary," says the gallant newspaper reporter. Will that courageous lady say as much of herself?

Great care should be taken at this season of the year that JOURNAL subscribers give us notice of their change of address. Send us a postal at once, if there is to be any change in address, that papers may not be lost. Send the old address and the new one at the same time.

Frequent requests come to us that the large pictures designed for language teaching (printed monthly in the Primary edition of THE JOURNAL) be printed on the backs of advertising pages that they may be detached and used in the school-room, without endangering the loss of other matter. The suggestion is certainly a reasonable one, and arrangements will soon be made to accede to this request.

September 17, 1892

From time to time during the past five years the East Saginaw schools have been rising in prominence. Last spring the editor visited the city and found there was a cause. He found this one of the rules for the teachers: "The proper object of a teacher's work and study is not, therefore, the course of study or the text-book, but the child himself."

Any school or system of schools that sincerely follows that rule will rise out of the formalism that hangs like a black cloud over it and come into the clear light of day.

Some of the teachers in Erie, Pa., have joined with Mr. C. D. Higby in forming a "Pestalozzi Club." Compayre's History of Pedagogy has been selected as a text-book in the history of education. The effort is to stimulate teachers to improve themselves.

The appointment of Dr. Samuel H. Albro as principal of the Mansfield, Pa., normal school removes a most valuable man from the state of New York; as superintendent of schools at Norwich, as teacher of natural science in the Fredonia state normal school, and as a member of the institute faculty Dr. Albro has been widely known. In all these positions he has shown himself to have a broad understanding of things; especially has his work in the institutes been something besides the stream of talk that "deadens to death" so many of these assemblages.

A subscriber in Elmira sends us these lines:

"The process of lecturing children into imbecility is frequently practiced. It is to be hoped that intelligent teachers will pause as they are about to open their mouths, these fine mornings and say, 'No, I will not say a lecturing word; I will tell them a story and we will have a laugh, and thus imbecility and many other things disappear.' True, true, O pedagogue!"

"A great deal of the 'New Education' consists in putting a boy to chopping bass wood with a good sharp ax when he should be at work on hickory, oak, and hard maple." So writes Supt. J. M. Greenwood, of Kansas City. Any teacher who puts a boy "to chopping bass wood" when he is able to chop hickory is neither an old nor a new educator, but an ignorant one. There are plenty of persons who think they are new educators and base their opinion on the fact that they have caught hold of some new devices. The only difference between the new and the old is that the former know more of the science of childhood.

A notable "Re-Union" was held at Constantine, Mich., August 24, 25, 26. In 1830 there came to this part of Washtenaw county men from the East who did not agree in politics, nor in religious beliefs, but they did agree in maintaining as good a public school as they could. It became widely known in the state as the "Union District." From a copy of the St. Joseph's County Advertiser it appears the time of the "Re-Union" was taken up in recounting the illustrious past. The work began earlier, and received an upward and onward push about the year 1845 when Mr. John F. Nichols, then a recent student at Oberlin, was engaged as teacher. The girls and boys of Union district had never before seen his like as a teacher. He stirred them up profoundly, and excited in them an interest and ambition they had never before felt, and which undoubtedly changed the course and tenor of their lives. The influence of John F. Nichols has not died out, but is destined long to endure. He taught the school for three successive terms. The attendance during the winter term of 1847-48 averaged 90 pupils daily, and the studies taught embraced everything from "a, b, c," to conic sections and mathematical astronomy. Mr. Nichols taught all these classes, and got through with all the recitations every day. He was systematic; everything came on and was gotten through with in time. He was a bundle of nerves, constantly strung up to highest tension. As a result of the impulse he gave, a large number of the pupils became successful teachers. Mr. Nichols soon after became principal of the Capitol school in Detroit and his services were then retained for thirty-five years. Union District furnished Detroit schools with ten successful teachers besides Mr. Nichols.

At the reunion about 100 old pupils were present; a fine dinner was provided; two copies of *The Monitor*, a manuscript paper published by these pupils of Union District were exhibited. Many contributions were found and read, the authors of which were present. "Hi" Mills found and read one of Vira Robinson's pieces, and she literally "sat down upon him" for it. One of Hi's poems was read and then he was laughed at; an article on the "Female Intellect" appeared to have been the effort of Mr. Geo. L. Hull, the chairman.

This is a type of what ought to be done in numerous places. Bring the school forward.

The Berkeley school (alluded to in JOURNAL September 3), as giving prizes for vacation collections and suggesting summer reading for the pupils is in New York city, and not Chicago as previously announced.

Cook County Normal School.

ARITHMETIC.

The following course of study exhibits a carefully systematized plan of work in arithmetic for the first term of the year; the other parts of the course will appear later. Mr. Giffin says: Work is to be done in each of the eight subjects in all grades; problems to be given under each subject in addition, subtraction, multiplication, division, and partition. The facts in any number including 20, that should be known automatically are: (1) All the equal numbers in a number (division). (2) All the equal parts of a number (partition). (3) Division of a number into any two numbers (subtraction). (4) All the equal numbers that united make a number (multiplication). (5) Union of any two numbers (addition). (6) Forms, studied in science, are to be moulded and painted: as the sphere, cube, cylinder, and ovoid as base forms. Other lessons in form will use the square, oblong, triangle, and circle; also opposite, adjacent, parallel, vertical, horizontal and perpendicular lines. Problems in area and volume should be given mostly from diagrams that the children may be obliged to search out their own premises. A portion of each Friday's lesson should be devoted to finding the average of the week in the weather record. Never allow the slightest hesitation in operations in pure numbers; grade the examples to avoid it. Each grade to review work of previous grade.

SUBJECTS. First Grade.

Number	From one to four inclusive.
Single Things	Problems to be mostly taken from science lessons.
Lines	The inch and foot. Estimating lengths of objects.
Area	The square inch and square foot. Estimating areas.
Volume	The cubic inch and two inch cube. Estimating volumes.
Measure of Bulk	The gill and pint. Actual measurements.
Weight	The ounce and pound. Different bulk of same weight.
Time	Calendar written daily on the blackboard.
Values	Money and postage stamps. Practical problems.

Second Grade.

Number	From ten to sixteen inclusive.
Single Things	Problems mostly from science lessons.
Lines	Foot, yard, and rod. Actual measurements.
Area	Of rectangles not to exceed 16 sq. in. or feet.
Volume	Rectangular solids not to exceed 16 cubic inches.
Measure of Bulk	Comparison of gill, pint, quart, and gallon.
Weight	Fractional parts of a pound, as 1-2, 1-4, 1-8, 1-16, etc.
Time	Days in a week, weeks in a month, mos. in a year.
Values	Practical problems in liquid measures, etc.

Third Grade.

Number	From twenty to twenty-five inclusive.
Single Things	Simple fractions and whole numbers.
Lines	Distance around rectangles. Use diagram.
Area	Square inches on four sides of boxes, etc.
Volume	Cubic foot to be seen and handled by children.
Measure of Bulk	Six, eight, and ten quart pails and palls.
Weight	Comparison of minerals and metals.
Time	How measured by different peoples. (History.)
Values	Practical problems one cent to twenty-five.

Fourth Grade.

Number	From thirty to forty inclusive.
Single Things	Problems mostly from science lessons. (Fractions.)
Lines	Miles and fractions of a mile. (Actual work.)
Area	Of rectangles and triangles.
Volume	The cubic yard. (A load of dirt.)
Measure of Bulk	From one to forty bushels, barrel, and 1-2 bbl.
Weight	Of bushel of oats, 1-2 bushel, and peck.
Time	Age of children in years, weeks, months, and days.
Values	Articles sold by the dozen or quire.

Fifth Grade.

Number	From one to seventy-five inclusive.
Single Things	Fundamental operations applied to fractions.
Lines	Rails and ties to build railroad. Fence posts, etc.
Area	Square mile. Many problems from geography should be given.
Volume	Piles of wood, fractions of cords in either height or length.
Measure of Bulk	From the gill to the barrel.
Weight	From the ounce to seventy-five pounds.
Time	Problems from history, science, and geography.
Values	Bills and receipts.

Sixth Grade.

Number	One to five hundred.
Single Things	Decimal and common fractions. Science.
Lines	River basins, continents, etc.
Area	Plastering and painting rectangular walls.
Volume	Foundation walls of stone.
Measure of Bulk	Contents of cisterns and bins.
Weight	The ton and review other grades.
Time	Revolution of earth on axis, etc.
Values	Percentage—three cases and book-keeping.

Seventh Grade.

Number	From ten thousand to twenty thousand.
Single Things	Problems from Science.
Lines	Length of rivers, continents, etc.
Area	Mensuration.
Volume	Mensuration.
Measure of Bulk	Comparing contents of lakes, rivers, etc.
Weight	Articles sold by the ton and carloads.
Time	From the minute to the century.
Values	Percentage. Book-keeping.

Eighth Grade.

Number	Of three periods.
Single Things	Ratio and Proportion.
Lines	General review. Actual work in measuring.
Area	General review and field work.
Volume	General review. Irregular forms.
Measure of Bulk	General review. See 6th, and 7th grades.
Weight	General review. See 5th, 6th and 7th grades.
Time	General review.
Values	Partnership. Book-keeping.

Supplementary.

Aunt Dinah and Columbus.

By ELLEN E. KENYON, Brooklyn, N. Y.

CHARACTERS.—*Mary.* A girl of fourteen. *Frank.* A boy of twelve. *Aunt Dinah.* Old and deaf. Black mask and sunbonnet, or hands and face colored, and hair concealed with a bandana. Small shawl, and large, white apron. Cane. A stoop and trembling gait.

Frank. Hurrah, Aunt Dinah! Columbus discovered America!

Dinah. What, honey?

Frank. (Louder.) Columbus discovered America. We learned that in school to-day.

Dinah. Laws! little Massa! Have they put you in the Latin class already?

Mary. She thinks you are talking Latin. Let me explain it to her. *(Louder.)* It isn't Latin, Aunt Dinah. Columbus was a man and his first name was Christopher, America is our country, and Columbus discovered it.

Dinah. (Dropping her cane to hold up her hands in horror.) No, Miss Mary! Did they put him in prison? *(Mary turns away, laughing.)*

Frank. (Restoring cane.) Why, no, Aunt Dinah. It was a very good thing to do. If Columbus hadn't discovered America, you never would have been born.

Mary. (Laughing.) Oh, Frank! you're funnier than Aunt Dinah. Of course she would have been born, but she would have been born in Africa. *(Aunt Dinah looks wonderingly from one to the other.)*

Frank. Yes, that's the way it stands. *(Louder.)* You see, Aunt Dinah, you would have been alive, but you would have been an African instead of an American. Think of that!

Dinah. (Dropping cane and putting hands together with a gesture of terror.) Laws, Massa!

Mary. Yes, Aunt Dinah. And then you'd have been blacker than ever, for the sun is so hot in Africa it would have tanned you.

Dinah. Laws, Missy!

Frank. (Restoring cane.) Yes, Aunt Dinah, but it would have been just as bad for us, for we should have been English, you know, like that dude that came to see sister Frances the other day.

Dinah. Laws, honey!

Mary. Yes, Aunt Dinah. We should have been born in Europe, and in Europe there's a king or a queen or both in almost every country, and all the rest of the people have to bow down to them. I'll be a queen Frank, and you show Aunt Dinah how to stand before me. *(Stands very proudly and looks cold, Frank bends toward her abjectly, with head bowed and arms hanging limply. Aunt Dinah drops on her knees and holds up her hands in an attitude of terrified supplication. The children laugh, assist her to her feet, and put her cane in her hand.)*

Mary. Don't be afraid, Aunt Dinah, I won't chop your head off. I am a good queen. I am Queen Isabella, and Frank is Columbus. Now we'll show you just how America came to be discovered. *(Assuming a queenly benignity.)* Well, my good Columbus, what have you to ask of our willing friendship this day?

Frank. (Bowing low.) Your majesty, we live in an ignorant age. Men say the world is flat, but I know that it is round.

Mary. Why does my good Columbus think so strange a thing?

Frank. Because, your majesty, when we see the earth's shadow upon the moon, we see that it is round.

Mary. But if I hold a coin between the lamp and the wall, *(taking a quarter from her pocket, and holding it as if to cast a shadow)* the shadow that it casts is round. Yet the coin is flat. *(Rubbing both flat surfaces.)*

Frank. But, your majesty, vessels that go out to sea are soon hidden by the roundness of the waters that rise between them and the shore. The world is round, your majesty, and the ocean is wrapped about it like a blanket.

Mary. Then it must be very dangerous to sail over to the down-hill of the seas.

Frank. Not so, your majesty. Nothing can fall from our mother earth, for she holds all things to her bosom even as she does her great blanket of waters. I believe that one might stand on the other side of the earth, with his feet toward ours.

Mary. Then he would stand as a fly upon the ceiling, head down.

Frank. So it would seem to us, your majesty. But he could not fall, because the earth holds all things to her as a magnet holds iron.

Mary. And why has my good Columbus come to tell me these strange things?

Frank. Because, your majesty, I believe that one could sail around the earth over this ocean and get to India that way. I should like to try it, but I have neither ships nor money.

Mary. Nor can I give you ships, unless I sell my jewels to get the money.

Frank. (Turning to Aunt Dinah.) That's the way it came about, Aunt Dinah. Queen Isabella took an interest in Columbus, and, through her, money enough was given him to fit out three ships, and he hired sailors to come with him over the ocean. But he never got to India, because America lay in the way.

Mary. Yes, but he thought it was India, so he called the red people that he found here Indians, and we call them Indians to this day.

Dinah. Was that 'fore I was born, honey?

Mary. (Laughing.) A long time, Aunt Dinah. It was in 1492, and this is 1892.

Dinah. Laws, honey!

Frank. Yes, it was four hundred years ago, and that gave us all plenty of time to be born in America. You see lots and lots of white people came over here after Columbus showed them the way, and afterward they brought the colored people to work for them. And that's how we came to have our kind old Aunt Dinah. *(Both lay hands lovingly upon her shoulders.)*

Dinah. Bress you, honeys! Clumbo war a good man! *(Looking from one to the other.)*

Mary. (Shouting in her ear.) Co-lum-bus.

Dinah. What, honey?

Mary. Try that ear, Frank.

Frank. (Shouting in the other ear.) Chris-to-pher Co-lum-bus.

Dinah. Kiss who, honey?

Mary. I don't believe she has heard one bit of our dialogue. *(Children change sides, passing behind her, and shout in both ears at once.)* Chris-to-pher Co-lum-bus.

Dinah. Yes, honeys, dat's the man. Whar do he live? *(Children laugh immoderately.)*

Mary. Why, Aunt Dinah, he would have to be more than four hundred years old to be alive now.

Frank. I told you he discovered America just four hundred years ago, and he was a grown up man then.

Dinah. What, honey?

Children. (In both ears.) Christopher Columbus dicovered America in 1492. *(They lead Aunt Dinah from the stage.)*

What the School-bell Says.

(This will make a capital recitation for a boy. It should be used soon after the opening of school.)

It is wonderful what unlike things
The school bell says to the boys, when it rings!
For instance, the laggard who drags along
On his way to school, hears this sort of thing:

Oh—suz—hum!
Why did I come?
Study till four—
Books are a bore!
Oh how I wish
I could run off and fish!
See! there's the brook,
Here's line and hook.
S'pose I must go,
Study till four.
Books are a bore!

Then the boy who loves to be faithful and true,
Who does what his parents thinks best he should do,
Comes bravely along with satchel and books,
The breeze in his whistle, the sun in his looks,
And these are the thoughts that well up like a song,
As he hears the old bell with its faithful ding-dong:

Cling, clang, cling—
I'm so glad I can sing!
Everything fair,
Even a boy
Finds study a joy!
When my work's done
I'm ready for fun.
Keener my play
For the tasks of the day.
Cling, clang, clang—
I'm so glad I can sing!

These are the songs which the two boys heard,
When the school-oell was ringing, word for word.

Which do you think was the truer song?
Which do you hear, as you're trudging along?
Don't be a laggard!—far better, I say,
To work when you work, and play when you play!
—Selected.

**The Official Program,
For the Ceremonies in the School-Rooms on
Columbus Day.**

The following program has been prepared by the committee:

The schools should assemble at 9 A. M. in their various rooms. At 9:30 the detail of veterans is expected to arrive. It is to be met at the entrance of the yard by the color guard of pupils, escorted with dignity to the building, and presented to the principal. The principal then gives the signal and the several teachers conduct their pupils to the yard, to drumbeat or other music, and arrange them in hollow square about the flag, the veterans and color guard taking places by the flag itself. The master of ceremonies then gives the command, "Attention!" and begins the exercises by reading the proclamation.

1. READING OF THE PRESIDENT'S PROCLAMATION. By the Master of Ceremonies.

At the close of the reading he announces: "In accordance with this recommendation by the president of the United States, and as a sign of our devotion to our country, let the flag of the nation be unfurled above this school."

2. RAISING OF THE FLAG. By the Veterans.

As the flag reaches the masthead the veterans will lead the assemblage in "Three Cheers for 'Old Glory'."

3. SALUTE TO THE FLAG. By the Pupils.

At a signal from the principal the pupils, in ordered ranks, hands to the side face the flag. Another signal is given; every pupil gives the flag the military salute—right hand lifted, palm downward, to a line with the forehead and close to it. Standing thus all repeat together slowly, "I pledge allegiance to my flag and the republic for which it stands; one nation indivisible, with liberty and justice for all." At the words "to my flag" the right hand is extended gracefully, palm upward, toward the flag, and remains in this gesture till the end of the affirmation, whereupon all hands immediately drop to the side. Then, still standing, as the instruments strike a chord, all will sing "America"—"My country 'tis of Thee."

4. ACKNOWLEDGMENT OF GOD. Prayer of Scripture.

5. SONG OF COLUMBUS DAY. By Pupils and Audience.

6. THE ADDRESS. "The Meaning of the Four Centuries."

7. THE ODE. "Columbia's Banner."

A reading of the poem written for the occasion by Edna Dean Proctor. Here should follow whatever additional exercises, patriotic recitations, historic representations or chorals may be desired.

8. ADDRESSES BY CITIZENS, AND NATIONAL SONGS.

SUGGESTIONS.

The foregoing Official Program provides for a Morning Celebration. The pupils of the schools are to gather on October 21, at the usual hour, in their respective school-houses. As far as possible, all the rooms in each school-house under the same principal should unite in having the same exercises. The parents and friends of the pupils should be brought together. Family interests on Columbus Day should be made to center in the particular school-house where the children attend.

The exercises of the morning may be simple or elaborate. Schools with sufficient resources may extend the Official Program with additional features, such as special music by chorus or orchestra, and historical exercises. The largest liberty is left for individual ingenuity and taste.

"Origin of the Word America."

M. Jules Marcon, of the Paris Geographical Society, has lately spent a great deal of time in making researches into the origin of the name "America."

The popular notion that America was so called from the Christian name of Amerigo Vespucci, is, he says, wholly unfounded, the name really being taken from "Amerique," the Indian name of the mountains between Julgalpa and Libertad, in the provinces of Chontales, which separates Lake Nicaragua from the Mosquito coast.

The name in the Maya language signifies "the windy country," or "the country where the wind blows always." The name of Vespucci was Alberico in Italian and Spanish, and Albericus in Latin, but it is subject to a great number of variations, and consequently M. Marcon suggests that the name Amerigo is an adaptation of Amerrique, added to Vespucci's name to distinguish it (Amerrique being a name already known and applied to the New World) in the same way as we say now "Chinese Gordon" to distinguish this particular Gordon by suggesting one of his heroic feats. Vespucci's claim to the discovery of America is put out of court by the fact that he was in Seville when Columbus made his voyage.

The teachers who are really intent on studying children and those who are not, as well, will find abundant material for thought, and a good many rays of light thrown on the imaginative power of childhood by reading "The Story of a Child," and also Dr. Hale's serial chapters of a "New England Boyhood" in the September Atlantic Monthly.

Psychology need not necessarily be bound up in a formidable pedagogical volume, labeled with some high sounding name. The psychology that the teacher wants is in the school-yard at every recess, and in every game that the children play when they are wholly unconscious of being noticed. The eye to see and the skill to read this unwritten mental law only comes by practice.

Correspondence.

I always give considerable delight to planning out my day's work, and I find the day that is planned out comes out so much better. The day that is unplanned I find a hard day. But while this seems sound, I met lately a teacher, that is considered real smart, and she laughs at any proposition, and deems I am altogether too much worried over my school. In her words, "I drop the school when I leave it at night, and never think of it again until I enter the door the next day."

I would like to know whether I am wrong and she right, or not. I do not mean that I sit and brood over my failures. I mean that I lay out plans for doing my work; I think over individual scholars; I consider whether the school is producing what it ought.

A. D. G.

There are a large number who drop the school as the teacher you here cited declares she does; probably the majority do. But there is need that the teacher take his bearings, and the really able teacher will do a good deal of outside work of necessity. Consider the case of a clergyman. Suppose he caught up a sermon, put on his hat, and hurried to the church, picked out the hymns and selected the chapter as the voluntary on the organ was being played. Now, could he do you any good? Could he build you up spiritually?

Children are far more sensitive than adults; they feel whether the teacher has been thinking of them while away. She needs to enter the room as one charged with a message to them. A teacher who is the same to-day, as he was yesterday has ceased to be useful. He may continue to draw pay, but his influence is not felt.

A teacher should plan like a minister to present some specific spiritual truth during the day. Not necessarily in a preaching or talk, but in anecdotes, in quotations, and in the general teachings of the day. Suppose it to be self-improvement, for example. She puts a motto on the blackboard as soon as she enters the room,—"To-Day is a King in Disguise." She selects some verses in the Bible to read that will further this thought. She has some pupil tell her an anecdote, or tells one herself bearing on the same subject. The same thought comes up in arithmetic, in geography; it comes up in considering cases of tardiness, absence, and idleness; it comes up in the dismissals.

Supposing the subjects of study need no examination, there is need of storing up your educative energy; you need to go magnetic into your school; you need to feel the tingling in every vein of the power to stimulate to lift, direct, and enthuse your pupils. This does not come from dropping the school when the day is over, and never thinking of it until it opens again.

But the subject is a large one; further light will be found in the pedagogical pages.

1. Is the oesophagus of an ox constructed differently from that of a man, inasmuch as the food is forced from the stomach to the mouth for the second chewing?

2. Do the corpuscles live to make more than one tour through the body?

C. J. C.
So, flu,

1. The return work of the ox's oesophagus is due to ganglionic action and control. With the same nerve arrangement probably the human oesophagus could serve the same. The lay of muscles would not need to be different.

2. No one knows about the life of corpuscles as to how long they live. The red corpuscles of the blood certainly must live longer than one circuit, or they would be very poor vehicles for oxygen and carbon dioxide. As colorless blood corpuscles are only supposed to convert to red, use otherwise unknown, we have no data by which to judge. There is no known reason why they may not make many circuits.

1. Why were red, white, and blue adopted as the standard colors of the U. S. flag?

2. Which is correct to say "It is farther" from place to place, or "It is further"?

3. "Ninety minutes make one and one-half hours," or "ninety minutes make one hour and one-half"?

June 21, 1892.

H. V.

1. Some authorities say that the red and white bars were taken from the armorial bearings of the Washington family. Blue was added because it is the true companion color of red.

2. Farther is commonly used to express a greater distance.

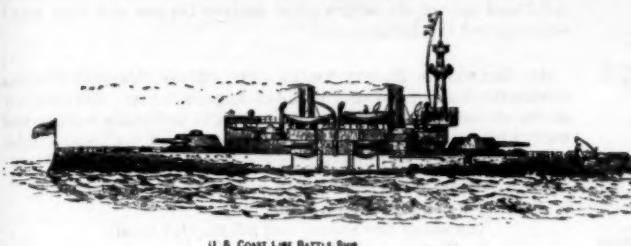
3. Either correct; first preferred.

We had quite a tilt over the expression "It is nobody else's." The commissioners said it must be "nobody's else." I could only say THE JOURNAL had given the form "nobody else's" and had asked "Suppose we put the object as hat" thus, "It is nobody else's hat?" for you could not say "It is nobody's else hat." What is the "parsing" of the words?

S. REDMOND.

The term "nobody else's" is a compound term in the possessive case. The later authorities, as Webster's International and the Century, put the possessive on "else."

Columbian Exposition, Chicago, Ills.

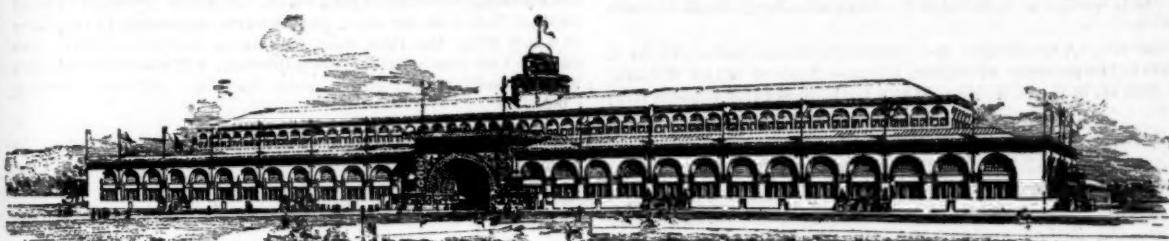


U. S. COAST LINE BATTLE SHIP

The Naval Exhibit.

Unique among the other exhibits is that made by the United States naval department. It is in a structure which, to all outward appearance, is a faithful, full-sized model of one of the new

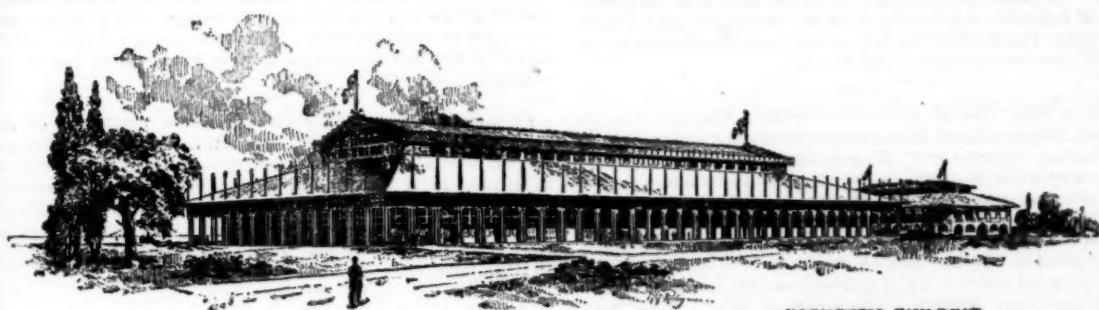
coast-line battleships. It is surrounded by water and has the appearance of being moored to a wharf. The structure has all the fittings that belong to the actual ship, such as guns, turrets, torpedo tubes, torpedo nets and booms, with boats, anchors, chain cables, davits, awnings, deck fittings, etc., etc., together with all appliance for working the same. Officers, seamen, mechanics, and marines are detailed by the navy department during the exposition, and the discipline and mode of life on our naval vessels are completely shown. The crew gives certain drills, especially boat, torpedo, and gun drills, as in a vessel of war. The dimensions of the structure are those of the actual battleship, to-wit: length, 348 feet, width amidships, 59 feet 3 inches; and from the water line to the top of the main deck, 12 feet. Centrally placed on this deck is a superstructure 8 feet high with a hammock berthing on the same 7 feet high, and above these are the bridge, chart-house, and the boats.



Transportation Building.

The Transportation building is exquisitely refined and simple in architectural treatment, although very rich and elaborate in detail. In style it savors much of the Romanesque. The main entrance to the Transportation building consists of an immense single arch enriched to an extraordinary degree with carvings, bas-reliefs and mural paintings, the entire feature forming a rich and beautiful, yet quiet, color climax, for it is treated in leaf and is called the golden door. The main building of the Transportation exhibit measures 960 feet front by 250 feet deep. From this extends westward to Stoney Island avenue an enormous annex, covering

about nine acres. This is one story only in height. In it may be seen the more bulky exhibits. Along the central avenue or nave the visitor may see facing each other scores of locomotive engines, highly polished, and rendering the perspective effect of the nave both exceedingly novel and striking. Add to the effect of the exhibits the architectural impression given by a long vista of richly ornamented colonnade, and it may easily be seen that the interior of the Transportation building is one of the most impressive of the exposition. The Transportation exhibits naturally include everything, of whatsoever name or sort, devoted to the purpose of transportation, and range from a baby carriage to a mogul engine, from a cash conveyor to a balloon or carrier pigeon.



Forestry Building.

The Forestry building is in appearance the most unique of all the exposition structures. Its dimensions are 200 by 500 feet. To a remarkable degree its architecture is of the rustic order. On all four sides of the building is a veranda, supporting the roof of which is a colonnade consisting of a series of columns composed of three tree-trunks each 25 feet in length, one of them from 16 to 20 inches in diameter and the others smaller. All of these trunks are left in their natural state, with bark undisturbed. They are

FORESTRY BUILDING,
World's Columbian Exposition.

contributed by the different states and territories of the Union and by foreign countries, each furnishing specimens of its most characteristic trees. The window frames are treated in the same rustic manner as is the rest of the building. The main entrances are elaborately finished in different kinds of wood, the material and workmanship being contributed by several prominent lumber associations. The roof is thatched with tan and other barks. The visitor can make no mistake as to the kinds of tree-trunks which form the colonnade, for he will see upon each a tablet upon which is inscribed the common and scientific name, the state or country from which the trunk was contributed.

In the California building will be shown a growing specimen of every California domestic flower obtainable, and also paintings, in water, and oil, of 600 wild flowers and grasses.

New Hampshire, which claims to be the "Switzerland of America," has appropriately planned to erect a Swiss chalet for its World's Fair building.

The plan of the exhibit which Ohio will make of its school system at the fair has been adopted by the commissioners, and embraces the following: 1. Manuscript work, essays, etc. In this selection exhibits will be held in each county seat. Four divi-

sions will be represented—the work of the subdistrict schools, graded schools of villages, some of cities, night schools. County exhibits will be in charge of a committee composed of the institute committee and two persons selected. From the work on exhibition the committee will select fifty of the best manuscripts in each branch and forward to the public school commission. 2. Maps, showing location of each school-house in the state; cost of education in each county; relative number of pupils in country, town, and city; schools for past forty years; relative number of pupils in primary, grammar, and high schools for the past forty years. 3. Picture albums of schools, buildings, etc. 4. History of organization and development of Ohio's school system shown by laws. 5. Text-books arranged to show old and new.

Important Events, &c.

The "Current Events" given below have been especially written for use in the school room. They are selected from *OUR TIMES*, published by E. L. Kellogg & Co.; price 50c. a year.

News Summary.

SEPT. 1.—Twenty-five killed by an explosion in a Belgium coal mine.

SEPT. 2.—Heavy losses to the Congo state through investments in Argentine, Brazilian, and Chilean securities.

SEPT. 3.—Improvements under way in Galveston harbor.

SEPT. 4.—Business depressed in Europe.

SEPT. 5.—Labor day celebrated in New York, Chicago, and other places.—Snow in Austria.

SEPT. 6.—The U. S. Naval War college near Newport, R. I., dedicated.

SEPT. 7.—A missionary and native Christians massacred by a mob in the province of Shansi, China.—Death of Major William J. Starks, of the N. Y. *Herald* and Ex-U. S. Senator Francis Kernan.

SEPT. 8.—The St. Louis exposition opened.

FOREIGN CLAIMS TO PACIFIC ISLANDS.

Having divided up among about all there is to divide in Africa, European nations are now annexing the islands of the Pacific. The latest move is that of Great Britain in laying claim to the Gilbert islands. The group comprises a dozen or more low, small, coral islands, interspersed with small islets, stretching south-easterly across the equator. They and the group further to the southeast, the Ellice islands, fill the gap between the Marshall islands on the north and the Fiji on the south. The latter have long belonged to England, while the Marshall islands were conceded about seven years ago to Germany. Under that compact between Great Britain and Germany, the Gilbert archipelago was described as being within the zone of British influence, so that the formal annexation recently made will undoubtedly be approved at Berlin. Spain is satisfied with having obtained the Carolines, further west, and France is fully occupied with New Caledonia, the New-Hebrides, and the islands of the Society group and their neighbors. The United States long ago gave up the idea of attempting to found colonies on the Pacific.

THE "SILVER-TONGUED ORATOR" DEAD.

Daniel Dougherty, the distinguished lawyer and orator, died in Philadelphia, September 5. He rose rapidly at the bar and then took to the lecture platform on which he had a brilliant career. Mr. Dougherty was devoted to the Roman Catholic church and never lost an opportunity to champion its cause. He was asked to make the speech nominating Gen. Hancock for the presidency at Cincinnati in 1880 and this effort gained him the name of the "silver-tongued orator." His speech nominating Grover Cleveland for the presidency in 1888 was also a notable effort. It has been said that "his speeches were fountains from which gushed forth

a steady and resistless torrent of humor and pathos, of sentiment and patriotism, which alike pleased the ear and enchanted and inspired the imagination."

DR. HOLMES IS EIGHTY-THREE.—Dr. Oliver Wendell Holmes celebrated his eighty-third birthday August 29 last. He received scores of telegrams of congratulation. The venerable author was well with the exception of a slight attack of asthma. John G. Whittier sent the following to Dr. Holmes:

Beloved physician of an age of all,
When grave prescriptions fail,
Thy songs have cheer and healing for us all,
As David's had for Saul.

CHICAGO'S NEW BELT LINE.—The first thing that strikes one's notice on glancing at a map of Chicago is the great number of railroads that center there. Convenience in handling freight has led to the construction of several belt lines, these and the main lines forming a veritable spider web. It is now proposed to build another belt line far out in the suburbs, extending in the shape of a bow from the lake shore in Indiana northward to the lake shore. The line will be 63.78 miles long, will cost \$5,500,000, and will connect twenty-three main lines of railroad entering Chicago.

LARGEST STEAMER IN THE WORLD.—The steamer *Campania*, built for the Cunard Steamship Company's New York and Liverpool service, was successfully launched at Glasgow, September 8. The *Campania* is the largest steamer in the world.

PROTECTION OF MISSIONARIES.—The Turkish government has agreed to protect the American missionaries at Bourdour, in the province of Konia, Asia Minor, and to pay for damages already inflicted.

CHEROKEE STRIP CLEAR.—The Cherokee strip is now absolutely clear of occupants. The last bunch of cattle has been shipped from Enid under the instructions of the troops. Since the troops have been in the field 50,000 head of cattle have been evicted. Of this number, the Rock Island has sent 38,000 to the Chicago market.

TO BUY POPOCATEPTL.—A number of Americans have arranged for the purchase of the volcano Popocateptl, which they propose to operate as a sulphur mine. They will run an electric railway up the mountain and mine the sulphur by the use of modern machinery.

EXPLORING GREENLAND.—An expedition consisting of nine members of the Danish Navy, have returned to Iceland after passing the winter in Scoresby's Land, Greenland, at a place situated in latitude, 70° 27' north. The work of the expedition consists of exploring the country and collecting specimens of everything of value or interest that can be obtained. Great scientific results have already been achieved. The expedition will shortly return to Greenland.

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New Books.

In looking over the pages of *Home and School Training*, by Hiram Orcutt, LL.D., one finds many questions connected with the home and school discussed in a plain, common-sense way, and from a high moral standpoint. It is a revision of a former volume with a new chapter added. The aim of the author was "to survey briefly the entire educational field from the standpoint of home, and to aid parents, teachers, and school-officers in their mutual relations, and the important work which they have to do." The various chapters relate to parental responsibility, parental control, parental mismanagement, parental efficiency, character and habits, religious training, intellectual culture, physical culture, the children at school, the children in society, and miscellaneous suggestions. No other book covers exactly the same ground. Dr. Orcutt's wide experience rendered him peculiarly fitted for the task of treating this broad educational theme. The volume has a fine frontispiece portrait of the author. (Thompson, Brown & Co., Boston. \$1.00.)

A recent volume of the Good Company series is *Dora Darling*, by Jane G. Austin. It is a story of the Civil war and brings up vividly to the mind the strife, the heart-burnings, the separation of families, that occurred a generation ago. Dora is the daughter of a New England mother who taught her to hate slavery. After her mother's death her father and brother enter the Confederate army and she is turned over to the tender mercies of a cruel aunt. She runs away and becomes the protege of a Federal regiment. A negro who has been a slave in her family figures largely in the story. The accounts of battles, narrow escapes, etc., woven into the narrative, prove very entertaining. (Lee & Shepard, Boston, 50 cents.)

Many of our readers will remember that some weeks ago *The Invasion of Britain* in the Elementary Classics series was issued with the revision of Prof. Ashmore, of Union college, Schenectady, N. Y. The same author has prepared for the press *Cæsar's Helvetian War*, furnishing references to American grammars, etc., that will make it still better adapted to the needs of students beginning the study of Latin. The book was originally prepared by W. Welch, M. A., and C. G. Duffield, M. A., assistant masters at the Cranleigh school. Prof. Ashmore has rewritten and enlarged the notes, and in making the references has kept constantly in view the uses and difficulties of the subjunctive. Changes have been made in the vocabularies, and the vowels which are long by nature have been marked. The introduction gives a short account of the Helvetian campaign, while the accompanying map shows the country through which Cæsar moved his legions. (Macmillan & Co., New York. 18mo. 40 cents.)

We have before us *A Text-book on Rhetoric*, a 12mo. volume of 345 pages, by Brainerd Kellogg, LL.D., that fits into the "Complete Course in English." The merits of these books have been tested by long trial, the advantage of having a complete series on the subject of language being at once appreciated. The rhetoric has been improved in various ways and meets the requirements of the schools of to-day. The idea of the author is to teach rhetoric not only as a science but as an art—to have him learn the principles, and further, by practice to become skilful in

the use of language. He leads up gradually from simple sentences to figures, qualities of style, etc., and gives a great number of poetical extracts for reading and study. The book is divided into lessons containing explanations, directions, and examples. None of the essentials are omitted; these are logically arranged, and are brief and to the point. We can safely recommend this book to the schools. (Effingham Maynard & Co. New York.)

In the little volume entitled *Natural History Lessons* is embodied a series of lessons for small children. Part I., by George Ashton Black, Ph.D., presents a course of natural history lessons, which children of six and seven shall learn by help of experiments with objects and operations that have so engrossed man in his efforts to feed, clothe, and house himself. The teacher is encouraged to draw out what knowledge the child possesses and to stimulate him to acquire more. The operations of the different trades are studied and much field work is marked out, including the observation of trees and other objects. Part II., is devoted to the study of plants and animals, and was prepared by Kathleen Carter, a well-known teacher of biology. She presents as much of the science of botany and zoology as can be readily understood by children during their first years in school. There are many suggestions in the book of value to teachers, and much material that any primary teacher may adapt to her use. (Henry Holt & Co., New York.)

Most young women look forward to marriage as the chief end and aim of existence. This is at it should be. Because there are some women who prefer to live single, or whose work precludes marriage, there is no reason in arguing against the rule. The question has been enveloped by so much sentimental nonsense that it is pleasing to get hold of a book that treats it from a practical and sensible point of view as does *How to Get Married Although a Woman*, by a young widow. If there is any time when a young woman needs good advice it is when she is about to take the most momentous step in her life. The author has studied human nature (especially man nature), and her younger sisters can learn much from her book. (J. S. Ogilvie, 57 Rose street, New York.)

"Beulah" who wrote the novel entitled *Tatters* has many of the qualities of the successful story writer. The heroine of the story is introduced in an obscure and filthy street in London and immediately engages the interest of the reader. Clever dialogues in which dialect is freely mixed, lively descriptions, bits of humor and pathos, and human touches are plentiful in the book. Though other characters play a prominent part, throughout the story the interest centers about Tatters. (Lee & Shepard, Boston. 50 cents.)

The *New Script Primer* published by Potter & Putnam, New York, is making a decided impression in the school world. There is little doubt that it will be one of the most widely introduced books of the year. It comes in to help the primary teacher in her arduous work of teaching little children their first lessons. The book is nearly all in faultless script, accompanied by neat illustrations. It is the first and only book issued to meet the demands of modern teaching, as far as script is concerned. The publishers are to be congratulated on being the first to put out a book which embodies completely what has been taught by all normal schools of the states. The adoptions by cities indicate that its success is not a matter of doubt.



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Magazines.

The September number of the *North American* is divided between English topics and the Homestead strike. Mr. H. W. Lucy, in "Electeering Methods in England," explains the legislation which, within the memory of young men, has swept away a great part of the corruption that used to make English politics infamous. The strike at Homestead is discussed from three points of view—by the Hon. William C. Oates, Chairman of the investigating committee appointed by Congress; by the Hon. Geo. Ticknor Curtis, and by Boss Workman Powderly, professedly three views. Each is fairly representative of the views of a large class of citizens. A noticeable article is a plea for women in art by Mrs. Susan N. Carter, of the Woman's Art School in the Cooper Union.

The September *Scribner's* is devoted largely to Western states and the Indians. C. F. Lummis in "The Indian who is not Poor" writes as one who has shared the sports and council fires of the red men. Octavo Thane continues her "Stories of a Western Town," and George Bird Grinnell describes "The Land of the Buffalo." An interesting paper is that by Mrs. F. R. Jones on the education of the blind, and Miss Isabel F. Hapgood contributes a Russian paper with many illustrations, on the famous "Street" of St. Petersburg, the Nevsky Prospect. The drawings in the article on "The Tilden Trust Library," by John Bigelow, are by Ernest Fagge and V. Perard.

The name of *Godey's Lady's Book* has been changed to *Godey's*. This magazine, so well known to the reading public, was started in 1830. The present publishers are enterprising and are determined to keep up with the times. In the first place, the magnificent work of art "Godey's Idea of the 'World's Fair,'" which is to be presented to every purchaser of this number, is said to be so beautiful and artistic in design and coloring that every one will want it. John Hubberton contributes a complete novel to the number and reviews all the books. Mrs. Henry Ward Beecher edits the "Home" department.

Literary Notes.

Harper & Brothers make the interesting announcement that they are about to publish a new volume in the "English Men of Letters" series, which seemed to have stopped with Sidney Colvin's *Keats* in 1877, although the promise that "other volumes will follow" was never withdrawn. The new volume will be *Carlyle*, written by Professor John Nichol, author of *Bryson in the same series*.

Ginn & Co. published about August 1 *A German Grammar for High Schools and Colleges*, by George Hempel, Ph. D., assistant professor in Michigan university, and formerly instructor in German in the Johns Hopkins university.

Worthington Co., 747 Broadway, New York, announce for immediate publication, as No. 2 in their Fair library, *The Hand of Destiny*, by Ossip Schubin, translated by Mary A. Robinson.

An Englishman in Paris, which will be published immediately by D. Appleton & Co., gives an intimate and most entertaining series of pictures of life in Paris during the reigns of Louis Philippe and Louis Napoleon.

A new work on astronomy, entitled *In Starry Realms* has recently come from the press of J. B. Lippincott Co. The object of the work is to give the general reader some sketches of specially interesting matters relating to the heavenly bodies.

Among the books which the Arena Company, of Boston have in press are *Sultans to Sultan: My Adventures Among the Massai and Other Native Tribes of East Africa*, by Mrs. French-Sheldon; and *The Rise of the Swiss Republic*, by William D. McCracken.

Sidney Dillon wrote a paper for Scribner's Historic Moment Series, and made his final revision of it only a few weeks before his death. It describes the "Driving of the Last Spike of the Union Pacific."

Among the volumes recently published by Allyn & Bacon are: *Select Essays of Macaulay*, and

Select Essays of Addison, edited by Samuel Thurber; *Principles of Success in Literature*, by George Henry Lewes, and *Studies in English Composition*, by Harriet L. Keeler.

The solid merit of *Philbrick's Primary Union Speaker* and *Philbrick's American Union Speaker* has been recognized by the constant demand for them in the schools. They are issued by Thompson, Brown & Co., 23 Hawley street, Boston.

Charles Scribner's Sons have now ready *The Scottish Clans and their Tartans*, containing introductory notes, lists of native dyes, badges of the clans, war cries, colored map of Scotland in sixteenth century divided into clans, and 96 colored plates of tartans.

Summer reading is necessarily subject to many distractions and interruptions and for this reason alone *Short Stories* is peculiarly suited to the hot season. Each of the fifteen or twenty tales, contained in every number of this magazine, is a complete story in a few pages.

In order to stimulate American composition, *Ladies' Home Journal* has just made public an attractive series of liberal prizes for the best original musical composition by composers resident in the United States and Canada. The prizes call for a waltz, a piano composition, a pleasing ballad and a popular song, an anthem and the four best hymns. The competition is open until November 1 next.

The frontispiece to *Harper's Magazine* for August is a portrait of Ernest Renan in his study at the Collège de France, drawn by the distinguished French artist P. Renouard. "Corfu and the Ionian Sea" is the title of a delightful chapter of travel in regions not often described for American readers, by Constance Fenimore Woolson. Very appropriate for summer reading is Dr. T. Mitchell Prudden's article on "Ice and Ice-making." The production of ice both in nature and by artificial processes is lucidly described by Dr. Prudden, and his very interesting paper will be especially valuable on account of its information concerning the sanitary qualities of the different kinds of ice.

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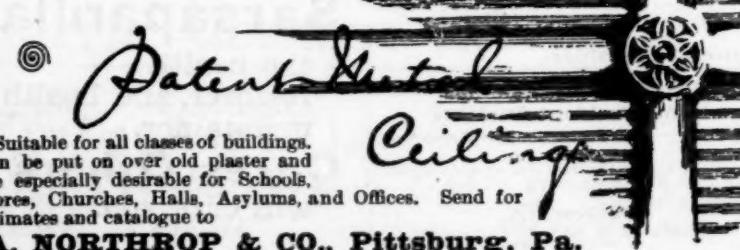
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